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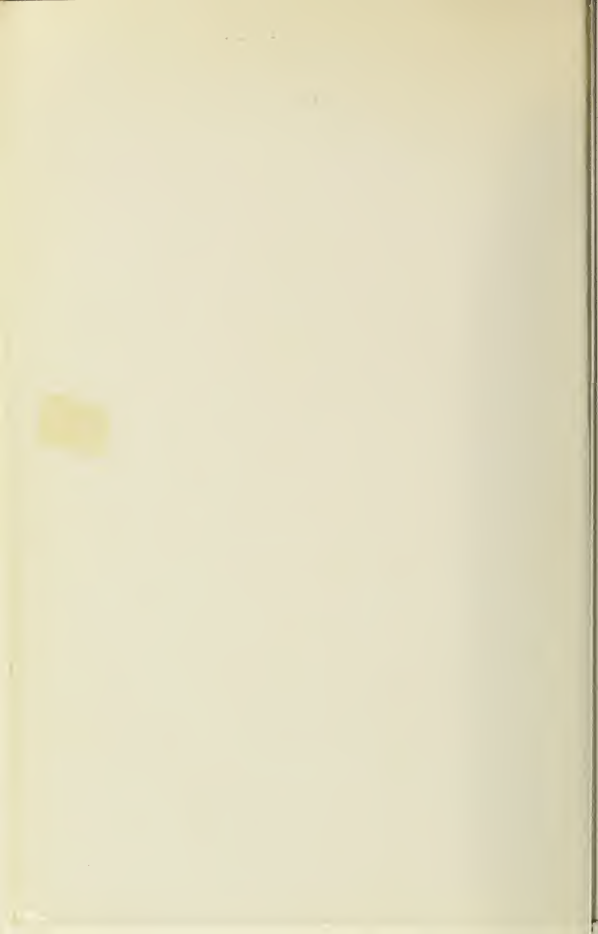
**SAN FRANCISCO'S  
PUBLIC UTILITIES  
COMMISSION  
1953-1954**

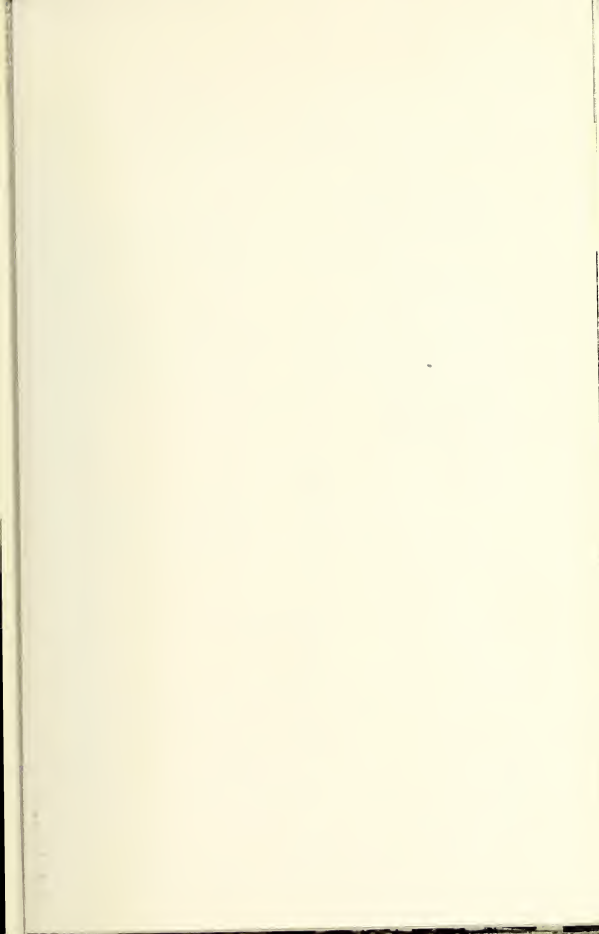
**ANNUAL  
REPORT**

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**MAYOR  
ELMER E. ROBINSON**

**PUBLIC UTILITIES  
COMMISSIONERS**

*The Public Utilities Commission is appointed by the Mayor for a term of four years, the terms of the members being staggered. There are five members of the Commission which elects its own president and vice-president.*

**UTILITIES  
DEPARTMENT HEADS**

*The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.*

**OLIVER M. ROUSSEAU**  
*Commission President*



**VICTOR S. SWANSON**  
*Commission Vice President*



**EDWARD B. BARON**  
*Commissioner*



**DONALD A. CAMERON**  
*Commissioner*

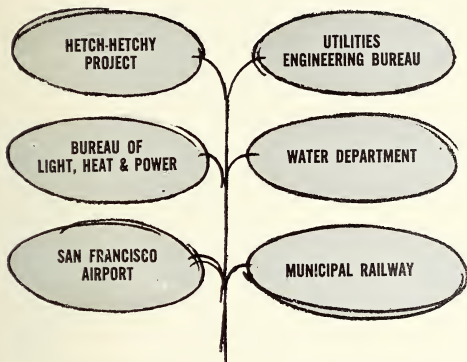


**SAM McKEE**  
*Commissioner*



**JAMES H. TURNER**  
*Manager of Utilities*





# ANNUAL REPORT

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## LETTER FROM THE PRESIDENT

Honorable Elmer E. Robinson  
Mayor of City and County of San Francisco  
City Hall, San Francisco

### **My Dear Mayor:**

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual condensed report covering activities and operations for the period beginning July 1, 1953 and ending June 30, 1954.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway; the San Francisco Water Department; Hetch Hetchy Project and Utilities Engineering Bureau; the San Francisco Airport and the Bureau of Light, Heat and Power. In addition, there are three service bureaus comprising the Bureau of Accounts, Bureau of Safety and Personnel, and the Bureau of Public Service.

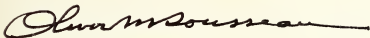
Detailed accounts of the activities and operation of these various departments will be found in the succeeding sections of this report.

The Commission held 53 regular and special meetings during the year, in the course of which 21 public hearings were conducted.

A budget was adopted by the Commission for the year 1954-1955 in the amount of \$57,061,369 and supplemental budgets totaled \$537,497.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent an appraised value in excess of \$303,000,000! Truly a significant figure attesting to the wealth and progress of our city.

Respectfully submitted,



*President*

Public Utilities Commission



O'Shaughnessy Dam, spilling its excess water into the Tuolumne River canyon below the dam, presents a beautiful spring time picture.





# Hetch Hetchy Water Supply

**POWER AND UTILITIES  
ENGINEERING  
BUREAU**



**HARRY E. LLOYD**  
Manager, Hetch Hetchy

## HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU

### ORGANIZATION AND FUNCTIONS

The long name "Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau" actually describes two separate functional departments within the organization of the Public Utilities Commission. These departments are the Hetch Hetchy Water Supply and Power Project, and the Utilities Engineering Bureau.

The "Hetch Hetchy Project" is the organization responsible for the management, operation and maintenance of the Hetch Hetchy Water Supply and Electric Power Systems. Its water supply function is that of wholesaler of water to the San Francisco Water Department. It collects and delivers the major share of the water distributed by the Water Department, which pays the Hetch Hetchy Project for this service. The power division of the Project sells the power generated to the various other municipal departments and miscellaneous customers. The revenues from water and power sales make the Hetch Hetchy Project self-supporting.

The Utilities Engineering Bureau is a service organization. It performs engineering work for the Hetch Hetchy Project, the Airport Department and the Municipal Railway, planning and supervising all new construction for those utilities, and providing engineering service in connection with maintenance and reconstruction of existing facilities. The Engineering Bureau is maintained by appropriations made to it by the various departments it serves.

### HETCH HETCHY WATER SUPPLY

The precipitation in the Tuolumne River watershed area for the season 1953-54 was near normal. The Tuolumne River runoff as measured in terms of computed natural flow at La Grange was 1,582,862 acre feet during the fiscal year, or 80% of the normal seasonal natural flow of 1,980,000 acre feet.

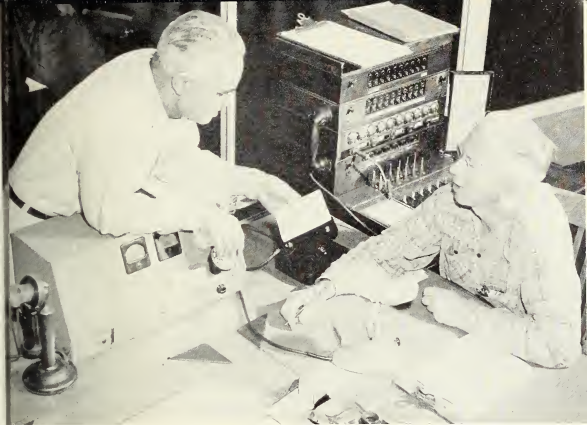
There were 33,270,400,000 gallons of water diverted by the City from the Tuolumne River watershed during the fiscal year 1953-54 making a grand total of 321,787,700,000 gallons diverted since the Hetch Hetchy Aqueduct began operation.

The water in storage in the Hetch Hetchy System on July 1, 1954 in comparison with July 1, 1953 is shown below.

<i>Reservoir</i>	<i>1953</i>	<i>1954</i>
Hetch Hetchy .....	362,736 Acre Feet	333,514 Acre Feet
Lake Eleanor .....	27,210 Acre Feet	27,016 Acre Feet
Priest, Forebay .....	829 Acre Feet	571 Acre Feet
<hr/>		
Total.....	390,775 Acre Feet	361,101 Acre Feet

### SAN JOAQUIN PIPE LINE NO. 1

A contract for cleaning and cement mortar lining approximately 13.8 miles of San Joaquin Pipe Line No. 1 between Coffee Road and the San Joaquin River was awarded August 17, 1953. Work under the contract was started on August 31, 1953, and completed on February 11, 1954. Payments under the contract totaled \$351,328.37.



The communication center at Moccasin Power House, with the two-way radio console on the operator's desk, enables the entire staff to remain in constant touch with key departments.

This contract constituted a portion of the work of reconditioning San Joaquin Pipe Line No. 1 which was started with a similar contract during the previous fiscal year. As a result of the work between the San Joaquin River and Coffee Road, the capacity of the pipe line was increased from 66 to approximately 70 million gallons daily.

#### **LOWER CHERRY AQUEDUCT**

Lower Cherry Aqueduct canal was replaced with steel pipe for a distance of 120 feet. This work was made necessary by an earth slide which was threatening both the aqueduct and the Cherry Valley Access Road. The work was performed by the City's forces under an emergency authorization, during the months of April and May, 1954, at a total cost of \$19,644.56.

#### **EARLY INTAKE POWER HOUSE**

Extensive alterations were made in the design and arrangement of the thrust bearings of the three hydraulic turbines in the Early Intake Power House. The bearings which were replaced were inadequate in capacity and their failures resulted in frequent outages of the electric generating units of which the turbines are a part.

The necessary replacement parts were locally fabricated and were installed by City personnel. The total cost of the work was \$10,633.74.

## **MOCCASIN POWER HOUSE**

A "Penstock Anchor," the largest in the system was reconstructed in this fiscal year.

This penstock anchor is a large block of reinforced concrete, supporting the pipes (penstocks) which carry water from the Priest Forebay to the Power House for the generation of electric energy.

The anchor had been under observation for several years because of the development of deep and wide cracks in the concrete. It was evident that if remedial measures were not taken the anchor would have failed. This would in turn have caused failure of the penstocks and the consequent shut-down of the power house, with resulting loss of revenue.

The work of reconstructing the anchor was done by City forces at a cost of \$65,000, and was completed in December, 1953.

## **CHERRY RIVER PROJECT**

The contract for clearing, stripping and grouting of the dam site was completed on June 18, 1954. The major items of work under this contract were the clearing of all trees and brush from 57 acres of land to be occupied by the dam and spillway; the removal of 308,000 cubic yards of earth and loose rock from these areas; the excavation of a cut-off trench in the rock under the dam, totaling 18,900 cubic yards of rock excavation; the drilling of 22,800 linear feet of 11½-inch diameter grout holes in the rock beneath the dam; and the injection of 19,400 cubic feet of grout into these holes to prevent seepage of water beneath the dam.

The contract for the diversion tunnel was completed on March 13, 1954, the major items of work being the construction of 1,280 feet of 16-foot diameter concrete-lined tunnel with an inlet structure and approach and outlet channels,

**A heavy-duty bulldozer clears out a work road for construction purposes at the Cherry Valley dam site.**





Shown here is the Cherry Valley Dam site in the process of construction. The view is looking along the earth core of the dam toward the east abutment. The dam now plugs the former stream bed and Cherry River is being diverted through a tunnel while the dam is being built.

plus 100 feet of a 10-foot diameter concrete-lined tunnel to be used in the future power development.

An appropriation in the amount of \$200,000 was made by the Federal Government in the fiscal year 1953-54, bringing the total Federal appropriations to date to \$7,469,000, of which payments totaling \$7,113,350 have been made to the City as of June 30, 1954.



An operator adjusts the hydraulic control system which actuates the slide gates at O'Shaughnessy Dam. These gates are like huge valves, controlling the flow of water through the dam and must function against the tremendous pressure of water stored in the reservoir which sometimes reaches a total of 90 tons.

#### HETCH HETCHY POWER DIVISION

Gross revenue from the sale of electric energy during the fiscal year 1953-54 was \$4,290,000, compared with \$4,620,000 in 1952-53, a decrease of 7%.

Revenue derived from sale of energy to the City's Municipal Departments increased 2% over last year. A decrease of 5% in revenue from the Municipal Railway was offset by increased sales to other departments, notably the San Francisco International Airport.

There was an increase in revenue from sale of energy to the Modesto and Turlock Irrigation Districts of 16% over 1952-53, reflecting the steady growth of these two communities. The Riverbank Ordnance Plant showed an increase of about 50%.

Revenue from sale of energy to the Kaiser Aluminum and Chemical Corporation decreased 93% as compared with 1952-53. This marked reduction in load was caused by cutbacks in Government stockpiling of strategic materials for the defense emergency. During 1952-53, the plant had been engaged in the production of ferrosilicon, an essential component in the manufacture of magnesium.

There was no significant change in revenue from energy sold to the Permanente Cement Company.

## **NEW SUBSTATION AT MATHER**

During the year a new substation was built at Camp Mather, which is served from Hetch Hetchy's 22,000 volt transmission line. Camp Mather is located in Tuolumne County, just outside Yosemite National Park, and is operated by the Recreation and Park Department as a summer recreation camp for the benefit of the people of San Francisco.

The local electric power distribution system at Moccasin, which is the operational headquarters for Hetch Hetchy, has been revamped and improved, including installation of a new 1500 KVA (approximately 2,000 hp) three-phase transformer. This was done because the system had become greatly overloaded. Part of the increased load at Moccasin was due to installation by the State of California of a large fish hatchery on Moccasin Creek, immediately below the City's power plant.

## **UTILITIES ENGINEERING BUREAU**

### **MUNICIPAL RAILWAY ENGINEERING**

Work continued during the year on the design and preparation of plans and specifications for rehabilitation of the Railway properties. In addition, contract plans and specifications were prepared for changes to the facilities as made necessary by the City's One-Way Street Plan, and the State's Freeway construction program.

The construction work carried on during the fiscal year was financed principally from the 1947 Municipal Bond Fund, the Municipal Railway Reconstruction and Replacement Fund, and certain funds made available by the State for changes on account of the Freeway construction.

Some of the more important projects, either completed or started during the fiscal year, are described generally in the following paragraphs.

### **OVERHEAD TROLLEY WIRE INSTALLATIONS**

Two contracts were completed covering the installation of overhead facilities, as follows:

- (1) One-way street rerouting of Trolley Coach Lines Nos. 5 and 21.
- (2) Relocation of poles on Folsom Street, 14th to 16th Streets, on account of the widening of Folsom Street by the Department of Public Works.

In addition, a number of minor projects involving overhead facilities were engineered for construction or installation by the Railway forces.

### **DUCT LINES**

The duct line on Potrero Avenue, between Mariposa and 17th Streets, was reconstructed as a result of a feeder short circuit.

The overhead feeders on Sixth Street, between Bryant and Harrison Streets, are being relocated in an underground duct line to permit Freeway viaduct construction.

## **TRACK REMOVAL AND RECONSTRUCTION**

The inner tracks on Market Street between Third and Fremont Streets were reconstructed and the outer tracks in this section were covered with asphaltic concrete wearing surface. All four tracks on Market Street between Fremont Street and the Embarcadero were abandoned and covered with asphalt concrete wearing surface. The street outside the track area was also resurfaced.

A contract for renewal of a portion of the cable track on Powell, Washington and Jackson Streets was completed. This is the fourth phase of the renewal of the tracks for the Powell-Mason and Washington-Jackson cable car lines.

The removal of tracks and reconstruction of curves and pavement at Ocean and San Jose Avenues was started this year. This work will be completed during the early part of the next fiscal year. The new curves will facilitate the operation of streetcars in pulling in and out of the Geneva carhouse.

## **AIRPORT ENGINEERING**

The goal of creating a new terminal to serve the needs of San Francisco for air transportation was brought to the verge of accomplishment. The New Terminal Building contract was completed and the Utilities Engineering Bureau inspected the construction throughout the building by the various concessionaires. The Service Building was completed and put into operation supplying steam and electricity for the Terminal. The Air Mail and Cargo Building, the Concourses, the road and apron grading, paving and lighting, and many other features are nearing completion.

## **FINANCING**

This work is being financed by a \$10,000,000 bond issue authorized by the electorate in 1949 and by Federal contributions through the Civil Aeronautics Administration. The previous bond issue authorized in 1945 has been used to enlarge and improve the landing field areas to accommodate larger modern aircraft in increased numbers.

A total Federal grant of \$5,299,004.88 toward this construction program has been made. Federal grant funds are paid to the City in installments corresponding to the progress payments made by the City to the Contractors; the Government regulations require that the element of the construction work on which any payment is based must have been completed before payment. The funds received are then used to finance the remaining work to be done under the project.

## **EMERGENCY POWER PLANTS INSTALLED**

An automatic 1,250 KVA diesel-generator standby power plant is being installed in the field lighting building to supply the following equipment in the event of a power failure:

1. Runway and approach lights;



2. Radar, ILS, and other navigational aids;
3. Field Drainage Pumping Plant #2.

Generator capacity in excess of that required by the above equipment will be available for the new Terminal Building.

A 125 KVA diesel-generator emergency power plant was installed in the New Terminal Building to provide emergency lighting and power for critical functions within the building in the event of failure of the regular power source.

### AIDS TO NAVIGATION

In order to aid air navigation a wind tee, wind speed transmitter and wind direction transmitter were installed in the segmented circle marker near the center of the airfield. New duct lines, pull boxes and control cable were installed to allow operation of the field lights and the above-mentioned equipment from the new control tower. When the operation of the control tower is transferred from the old tower to the new tower, the remainder of the work to be done will be accomplished. This consists of transferring the control panels for field lighting and wind tees to the operations desk in the new tower. Also the rotating beacon and the flashing beacon will be transferred from the roof of the old tower to the roof of the new tower.

### PLANNING FOR TENANTS

Extensive work has been done in conjunction with the Airport Department in preparation of leases for the space and facilities in the New Terminal and other areas. Numerous drawings have been made showing the exact limits of the leases, special conditions and location of utilities to be provided by the City.

Plans for construction at the Airport by tenants have been checked and approved. United Air Lines, American Air Lines, Rick Helicopter and Standard Oil Company have all submitted major projects for lease development during the past fiscal year.

If you have trouble in keeping a couple of extra fuses around the house you will be able to sympathize with the employees at the Moccasin Power House who must maintain a store of fuses in the many sizes and shapes needed for various equipment and ready for instant use.



# Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau

## FISCAL YEAR 1953-1954

### WHAT WE RECEIVED:

By Transfer from S. F. Water Dept. for Standby and Purchase .....	\$ 3,545,590
Revenue from Sale of Power.....	4,289,746
Other Revenue .....	72,520
Prior Year's Surplus.....	480,000
<b>TOTAL RECEIPTS .....</b>	<b>\$ 8,387,856</b>

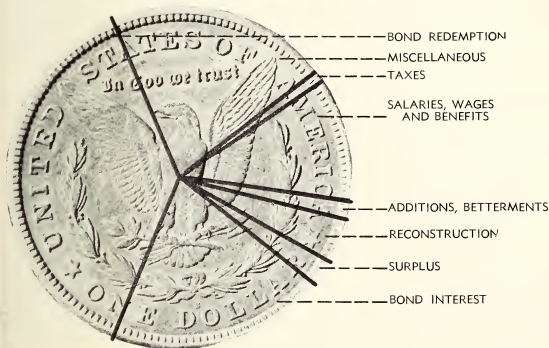
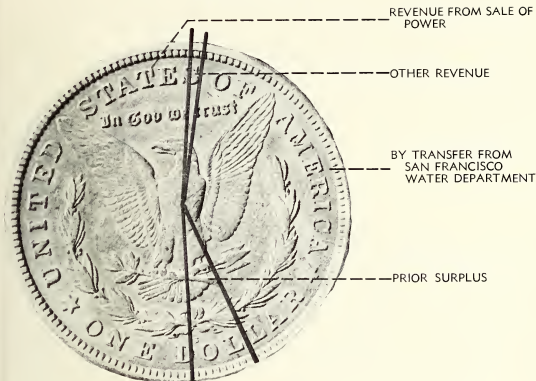
### WHERE MONEY WENT:

Salary and Wages including Retirement Sickness and Industrial Compensation Benefits.....	\$ 1,002,925
*Miscellaneous .....	1,791,635
Taxes .....	20,340
Bond Interest .....	1,767,248
Bond Redemption .....	3,140,069
Reconstruction and Replacement.....	372,756
Additions and Betterments.....	61,013
<b>TOTAL EXPENDITURES.....</b>	<b>\$ 8,155,986</b>

Transferred to Surplus.....	231,870
	<b>\$ 8,387,856</b>

*Contractual Services .....	\$ 59,270
Material and Supplies.....	69,133
Water Rights and Damage Claims .....	29,947
Fee to U. S. Government.....	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line.....	1,594,941
Insurance .....	8,344
	<b>\$1,791,635</b>

## RECEIPTS



## EXPENDITURES



Harvesting hay, which, with grain crops on a share basis, returns the Department \$20,000.



From 100 acres of walnut trees, like one, taxpayers received \$48,000 this year.



Over 500 acres of beauty yielding \$15,000 per year from a cash lease to raise roses.



Dairying and beef grazing lands bring about \$95,000.



Looking over a box of ripe strawberries grown on the 50 acres leased out to growers who paid \$15,000 in rental fees this year.



From two rock quarry leases return proximately \$93,000.



# Water Department

**GEORGE PRACY**  
Manager, Water Department

## IN BRIEF

This fiscal year 1953-54 completed twenty-four years of successful operation of the Water Department by the City. During that period there have been many changes in the system and its operation.

That part of the Sunset Supply Line from Burlingame to Sunset Reservoir is now completed. Construction of the Sunset Supply-Crystal Springs Pipeline from Crystal Springs Dam to Hillsborough Bridge is under way. Plans are being prepared for that section of the Sunset Supply Line between Hillsborough Bridge and Burlingame as well as the San Andreas Branch.

Present plans are to complete the first basin of Balboa Reservoir in 1955-56 and the south and last basin of Sunset Reservoir in 1957-58. These two reservoir basins will add approximately 165 million gallons to our City distribution system storage capacity.

With the completion of Summit Reservoir we will have storage capacity within the City for approximately  $3\frac{1}{2}$  days with City consumption at the present yearly average rate of 90 million gallons per day. On completion of the Balboa and Sunset reservoir basins, one basin at each site, the total capacity will increase to approximately five days' supply at the same rate of consumption. However, at the rate of demand for the month of June 1954, 157.3 million gallons per day, the storage capacity would provide for approximately three days' demand.

For the second year rainfall was below normal in the Department's local Watershed Areas and for the first time in four years, rainfall was below normal within the City. This reduced rainfall was reflected in a reduction in storage of 828 million gallons in City and Peninsula reservoirs and 4,378 million gallons in Calaveras Reservoir during the fiscal year. This decrease occurred even though the maximum quantity possible was drawn from Hetch Hetchy during the year, averaging 90.1 million gallons daily.

Water consumption for the entire system during the year ending June 30, 1954 averaged 124.9 million gallons daily, an increase of 6.5 million gallons daily over the preceding year. Of this total, 89.7 million gallons daily were used in the San Francisco consumption area and the balance of 35.2 million gallons daily was used in the suburban consumption area.

The peak 24 hours demand on the system, occurring on June 21, 1954 was 197.0 million gallons, as compared to the previous all time peak of 166.8 million gallons on June 24, 1953.

The low 24 hour demand on the system, occurring on November 22, 1953, was 88.0 million gallons as compared to the 1952-53 low of 83.7 million gallons on December 25, 1952.

The month of June 1951, had the highest daily average demand of any month during the year averaging 157.3 million gallons per day as compared to an average 140.2 million gallons per day in June 1953.

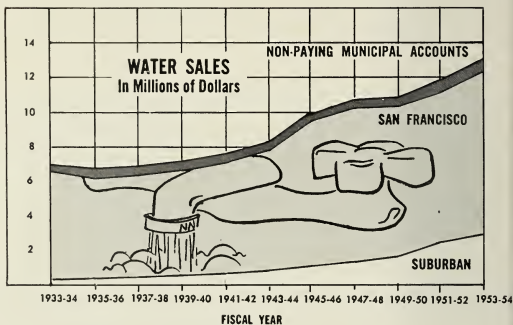
A review of the consumption in City and Suburban consumption areas for the past five years shows an increase in the former of about 8% while in the latter it is nearly 80%. This increase points up the tremendous growth in population and industrial development in the suburban areas served by the San Francisco Water Department. This, of course, increases our responsibility and requires continuous studies of the system to anticipate additional demands and provide the facilities to meet them.

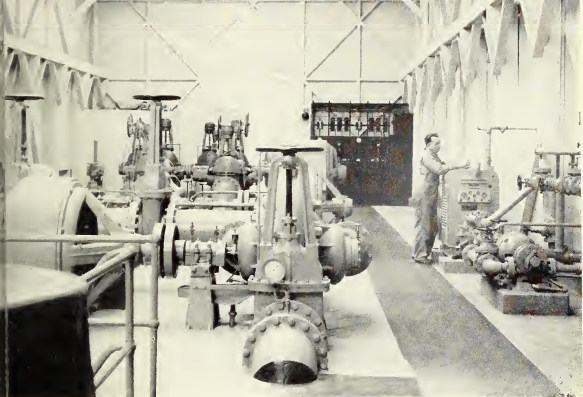
Water sales for the year, including municipal non-pay accounts, amounted to \$12,817,945, an increase of \$313,062, or 2.5 per cent over the previous year. Accounts within the city limits increased by \$83,661, making a total net sales within the City of \$9,786,704, or 76 per cent of the department's total sales. Suburban net sales increased \$229,401, making a total suburban sales of \$3,031,241, or 21 per cent of the department's total net sales.

Chemical treatment of all water supplies has been continuous and all consumers received water that was in full compliance with State and Federal standards for potability.

#### WATER PRODUCTION GENERAL OPERATIONS

Total water consumption during the year was 45,605.4 million gallons, averaging 124.9 million gallons per day, which is 6.5 million gallons per day more than during the preceding year.





**Crystal Springs Pump Station, located at Crystal Springs Dam, is able to raise 60 million gallons of water a day to San Andreas Reservoir from where it flows by gravity to San Francisco.**

Deliveries to the San Francisco consumption area averaged 89.7 million gallons daily, with deliveries to suburban areas averaging 35.2 million gallons daily. (Some Suburban deliveries in northern San Mateo County are included in the San Francisco consumption area figures.)

Deliveries from Hetch Hetchy were.....32,878.0 million gallons.

Draft from Local Production and storage was.....12,727.4 million gallons.

Total .....45,605.4 million gallons.

The total delivery from Hetch Hetchy since October 18, 1934 now amounts to 318,367 million gallons or an average of 44.2 million gallons per day.

All water delivered to San Francisco was, as heretofore, supplied entirely from San Andreas and Crystal Springs Reservoirs in San Mateo County. Those reservoirs were replenished from run-off, by water drawn from Calaveras Reservoir in Alameda and Santa Clara Counties and from the Hetch Hetchy System in the Sierra Nevada Mountains.

Practically all water deliveries outside the City of San Francisco are made to vendors who take large quantities at the department's transmission mains. These vendors, individual cities, public utility companies, water districts or private individuals own and operate their own distribution systems.

This department delivers water to practically all cities and towns in San

Mateo County and to Palo Alto on the west side of the Bay, to the City of Hayward and other relatively small deliveries on the east side of the bay south of Hayward.

### **CITY DISTRIBUTION DIVISION WATER CONSUMPTION**

The average daily consumption for the City and County was 89,712,975 gallons, an increase of 1,229,317 gallons, or about 1.4 per cent over the previous year. There was an increase in consumption in all of the residential districts, except Merced Manor, amounting to 1,721,125 gallons. Forest Hill increased 3.9%, Stanford Heights 2.6%, Sunset 2.9%, College Hill 2.0%. Merced Manor residential district showed a decrease in average daily consumption amounting to 491,808 gallons, or 23.3%. The industrial district, i.e. University Mound, showed an increased consumption of 209,861 gallons, or 0.7%.

### **OPERATING CONDITIONS**

Due to the fact that San Francisco again experienced a rather cool year, there having been no hot weather for any length of time, there were no "no water" complaints due to the inadequacy of the system.

All of the primary and secondary mains required for the establishment of the new Sutro District have been laid. The cutting in of the required divide gates is now completed, except in a few instances, which were overlooked.

The changeover from the Stanford Heights and Sunset Districts to the Sutro District was started on July 13th and is being done as rapidly as possible. This work should, in all probability, be an accomplished fact by the end of 1954.

### **FEEDER MAINS**

From past experience a hot spell of several days' duration would create a serious situation throughout the City. This condition can only be overcome by the laying of additional feeder mains in the various distribution districts, as well as the rearrangement of the existing feeder mains. Additional supply mains should also be given consideration. Funds were made available in the coming budget for the laying of some of the feeder mains.

### **WATER PURIFICATION DIVISION**

Normal water treatment practices and adequate precautions for safeguarding the San Francisco water supply were in force throughout the year. Disinfection of all supplies was continuous and water supplied to consumers complied with the bacteriological standards established by the United States Public Health Service for drinking water purity.

Source supplies varied in chemical content from a soft mountain water, which is our major source of supply and which is now treated for corrosion control, to a relatively hard ground water supplying minor quantities. The final mixture served to consumers is moderately soft and of relatively low mineral content. In general, the water is free of tastes and odors and the quality is good for an unfiltered supply derived primarily from surface sources.

### **LABORATORY**

All analytical work in the fields of biology, bacteriology and chemistry, except the necessary field tests, was performed in our laboratory, located at Mill-



brae, which has been certified by the State Department of Public Health as an "Approved Water Laboratory for Complete Chemical and Complete Bacteriological Analyses."

Following is a tabulation which summarizes the field and laboratory tests made during the year in connection with water treatment, sanitary control, and special investigation:

Bacteriological Examinations .....	6,747
Routine Microscopical Examinations of Algae.....	414
Electrical Conductivity Measurements.....	4,295
Turbidity Measurements .....	3,516
Partial Chemical Analyses .....	929
Routine Fluoride Tests .....	947
Color Measurements .....	811
Dissolved Oxygen Tests.....	645
Analyses to Determine Origin of Leaks.....	273
Complaint Investigations .....	28
Irrigation Water Analyses.....	18
Complete Mineral Analyses .....	8
Miscellaneous Laboratory Tests not otherwise included.....	848
Chlorine Residual Tests.....	5,583
Miscellaneous Field Tests.....	2,392

Numerous special investigations continue to be made for this and other divisions such as the investigation of explosive gases emitting from pipe linings, soil

**Wearing a safety mask and rubber gloves, a Water Department superintendent performs the first step in the fluoridation of approximately 50% of the water supplied to San Francisco. Absolute control is assured by automatic equipment and holds the fluoride content of water to maximum of one part per million of water.**





**The intricacies of design and construction of the 32 million gallon Sutro reservoir can easily be seen in this photo taken of the eastern half looking southeast. The Reservoir is 500 feet above sea level on one side of Twin Peaks.**

analyses for backfill and suitability of materials to be used in construction and operations of the Water Department. Technical assistance continues to be given various industries which have problems which they feel arise from the use of our water in their processes.

During the past year one member of our staff attended a special Army-Navy Service School for the detection of deliberate contamination of water supplies by use of nuclear fission products and bacteria.

### **FLUORIDATION**

The fluoridation of approximately fifty per cent of the water supplied to San Francisco was continued throughout the year. Adequate safety features are provided to prevent any possible overdosage and operations to date have proved the controls to be effective. There was no overdosage of fluoride to any water served to consumers during the year.

The Board of Supervisors has approved the extension of the fluoridation program to include all water served to San Francisco. Facilities for extending the program will soon be provided and it is anticipated that all of the water served to San Francisco will be fluoridated by the middle of the fiscal year, 1954-1955.



In this multiple flash shot, taken after completion of Sutro Reservoir, the forest of columns needed to support the reservoir's roof can easily be seen. The roof not only affords protection for the water but will be used for recreational purposes in the near future.

### ENGINEERING DIVISION

The work of the Engineering Division, during the past year, was primarily concerned with the preparation of plans, specifications, engineering studies, reports, estimates of cost, inspection of construction and in some cases the supervision of maintenance work. Various other services of a continuing nature were performed during the year including the preparation of property descriptions, revocable permit and the stating of conditions for land transactions; the maintenance of maps and records and the furnishing of photostatic and photographic service to all city owned utilities.

Plans and specifications were prepared for 39 formal and 9 informal Water Department contracts for a total estimated construction cost of \$2,200,000. Engineering supervision and inspection services were provided for \$1,720,000 worth of contract work actually completed during the year. Of the 37 formal contracts for which plans and specifications were prepared during the fiscal year 1953-54, 20 were for water main extensions.

### AGRICULTURAL DIVISION

On July 1, 1951 the area owned in fee was 63,321.9 acres which was 14.9 acres less than shown in the annual report of June 30, 1953.

Kind of Lease	Leased Acreage	No. of Leases	Income
<b>Agricultural:</b>			
*Cattle and Dairy .....	29,718	17	\$ 94,361.98
Share Crop and Cash Rental .....	3,190	10	20,722.00
Specialty .....	970	6	30,642.00
Flat Rate .....	1,805	30	6,392.70
Airport Agricultural Lease .....	528	1	7,000.00
<b>Non-Agricultural:</b>			
Flat Rates .....	145	43	12,113.46
Royalties .....	49	2	93,139.55
Skyline Material Rock Quarry			
Lowrie Rock Quarry			
Miscellaneous .....	183	6	12,746.64
Taxes Paid by Tenants .....	—	—	2,693.96
	36,588	115	\$279,812.39
* Includes cash rental and sliding scale cattle leases.			
<b>Walnut Orchard:</b>			
Sale of Walnuts .....	90	—	\$ 47,826.07
Sale of Walnuts (new orchard) .....	40	—	—
	36,718	115	\$327,638.16

### GOOD MANAGEMENT INCREASES INCOME

The policy of examining all leases and revaluing them which was begun on October 1, 1951, has continued with great success and with a substantial increase in revenues for this Division.

The Agricultural Division annual income at the start of this program totaled \$207,633.00. With the close of the fiscal year June 30, 1954, the income had risen to the total of \$320,638.00. This represents an increase of \$113,005 in a period of 2½ years. Net income is \$271,796.00 which is the highest net income in the history of the Agricultural Division.

This has been attributed principally to the renegotiation of a large number of cattle leases at a time prior to the drop in the price of beef, thereby maintaining a higher income.

A number of unprofitable share crop leases were renegotiated on a cash basis, in many cases doubling and even tripling the previous rent and the addition of new areas heretofore unleased together with general revision of commercial leases.

The walnut orchard showed a substantial increase with a good crop and increased revenues were received from the two rock quarries and the Crystal Springs Golf Course.



## TYPICAL ANALYSES OF WATERS SERVED TO CONSUMERS

(Results expressed in parts per million, except pH and conductivity)

SOURCE	Crystal Springs Lines	San Andreas Lines	Bay Crossing Lines	Stone Dam Reservoir
Conductivity ( $K \times 10^5 \text{ mho/cm}$ )	13.1	14.5	10.7	32.9
pH	7.5	7.7	8.3	8.1
Total Solids	80	78	66	192
Silica ( $\text{SiO}_2$ )	10.0	4.4	6.1	13
Sodium (Na)	6.8	8.2	6.7	20.2
Calcium (Ca)	15.6	15.8	12.5	32
Magnesium (Mg)	3.1	3.4	3.1	11.7
Iron, Dissolved (Fe)	0.02	0.02	0	0
Aluminum (Al)	0	0.02	0.02	0.02
Manganese (Mn)	0	0	0	0
Boron (B)	0.11	0.09	0.11	0.09
Fluoride (F)	0.05	0.95	0.15	0.02
Carbonate ( $\text{CO}_3$ )	0	0	1.2	0
Bicarbonate ( $\text{HCO}_3$ )	62	59	46	133
Sulphate ( $\text{SO}_4$ )	8.3	8.3	7.9	21.9
Chloride (Cl)	6	9	4	28
Nitrate ( $\text{NO}_3$ )	0.01	0.01	0.01	0.01
Hardness, Calculated ( $\text{CaCO}_3$ )	52	53	44	128
Alkalinity ( $\text{CaCO}_3$ )	51	49	38	109

*Specialty Crops* included 500 acres of roses at Pleasanton, 70 acres of pole string beans, 3 strawberry leases totaling 200 acres and a Government experimental plot of 30 acres near Sunol that has developed several new types of range grasses.

### NON-AGRICULTURAL LEASES

This category includes the Crystal Springs Golf Course which produces about \$14,000 annually on a percentage basis, two rock quarries on a royalty basis and various commercial leases for which the land is leased for picnic grounds, lumber yards, nurseries, restaurant and other commercial types of business.

Eleven billboard leases yield \$1,092.00 per year while many small leases have been converted to income producing revocable permits.

### WALNUT ORCHARD

The 1953 harvest totaled  $80\frac{1}{2}$  tons which was somewhat lower than the previous year's record of  $116\frac{1}{3}$  tons. Crop was of high quality and production was considerably above the State average which was an unusually light crop.

Preparations are under way to harvest next year's crop by mechanical "pickers" which will lower harvesting costs by at least another \$22.00 per ton.

Column 1 Supplies downtown, commercial, waterfront areas of the City, and Peninsula communities as far south as San Carlos.

Column 2 Supplies residential areas of the City.

Column 3 Supplies Peninsula communities south of San Carlos and same communities in Alameda County.

(\*Average analyses of water served; water ranged from Hetch Hetchy only to Calaveras only.)

Column 4 Supplies Coast County Water District.

**San Francisco Water Department**  
**Financial Results of Operation**  
**FISCAL YEAR 1953-1954**

**WHAT WE RECEIVED:**

Revenue from the Sale of Water.....	\$12,076,945
Revenue from the Sale of Walnuts.....	38,003
Rents and Commissions.....	289,709
Miscellaneous Revenue.....	25,886
Prior Year's Surplus.....	488,384
<b>TOTAL RECEIPTS .....</b>	<b>\$12,918,927</b>

**WHERE MONEY WENT:**

Salaries, Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits.....	\$ 2,457,952
*Miscellaneous .....	4,449,334
Taxes .....	605,392
Bond Interest .....	943,926
Bond Redemption .....	1,960,931
Additions and Betterments.....	1,480,456
Reconstruction and Replacement.....	459,118
<b>TOTAL EXPENDITURES.....</b>	<b>\$12,357,109</b>
Transferred to Surplus.....	561,818
	<b>\$12,918,927</b>
*Material and Supplies.....	\$ 287,385
Contractual Services .....	570,775
Standby Charge and Purchase of Water .....	3,545,590
Other Expenses .....	45,584
	<b>\$4,449,334</b>

## RECEIPTS



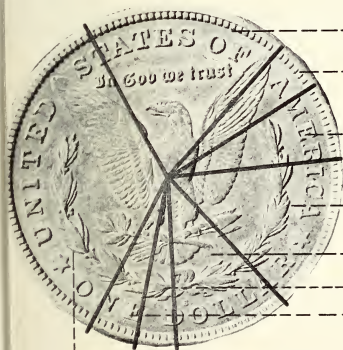
REVENUE FROM  
SALE OF WATER

SALE OF WALNUTS

RENTS AND COMMISSIONS

MISCELLANEOUS

SURPLUS



SALARIES, WAGES, BENEFITS

TAXES

BOND INTEREST

BOND REDEMPTION

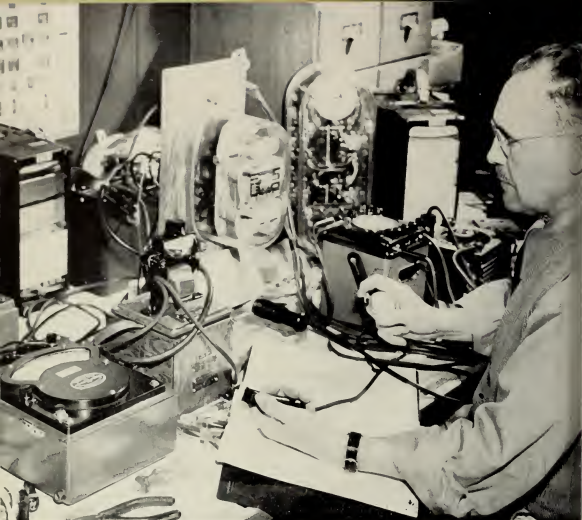
ADDITIONS, BETTERMENTS

RECONSTRUCTION,  
REPLACEMENT

SURPLUS

MISCELLANEOUS

## EXPENDITURES



Complex, electric meter testing equipment is used by the Department to maintain accuracy and reliability in municipal controls under the jurisdiction of the Heat, Light and Power Bureau.



## Bureau of Light, Heat and Power

**B. A. DEVINE**

Manager, Light, Heat and Power

### FUNCTION

The functions of this Bureau include, in addition to the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City. The Bureau therefore controls the yearly disbursement of approximately three million dollars of City funds.



These operations are under the management of B. A. Devine, assisted by G. W. Dolen in charge of street lighting operations and maintenance; W. C. Eggert in charge of street lighting design and construction; and E. W. Balzer in charge of gas and electric supply. Much of the credit for the efficient operation of the Bureau must go to these men.

The Bureau consists of engineers, draftsmen, accountants, clerks and stenographers, a total of 18 employees at the end of this fiscal year.

### **STREET LIGHTING OPERATION**

During the year there was a decrease of 66 lights, the major portion of the decrease being due to the construction of the Bay Shore Freeway, from Hester Avenue to Augusta Street, which eliminated 101 street lights on the east side of the new Freeway right-of-way.

With seven major street lighting contracts and the development of new streets, housing projects and State Highway construction, the number of new city-owned lights will be greater in the 1954-55 fiscal year than in 1953-54.

At the close of the year, 27,621 lights were in service, 1,825 being jointly owned with the Pacific Gas and Electric Company, 18,650 wholly owned by that company, and 7,146 wholly owned by the City. City-owned lights have increased in number from 934 in 1932 to 7,146 in 1954, an increase of 6,212.

With a surplus of over \$37,500 in our construction fund, and with eight new projects in the 1954-55 budget, totaling \$166,200 for new lights, plus new private tract development, we will be able to increase the number of city-owned lights and also eliminate fixed charges on replaced company-owned lights.

A total expenditure of \$983,572.70 for street lighting operations was made during the year. This total includes operation and maintenance cost for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The increase over last year's expenditures of \$948,449.43 was due to new maintenance rates allowed the Pacific Gas and Electric Company by the State Public Utilities Commission. Also included were new streets and subdivisions, which added to our operation and maintenance costs; increased cost of damages to city-owned street lighting equipment; and cost of stock and office equipment.

### **INCREASE IN REQUESTS FOR STREET LIGHTING**

The number of requests received by this Bureau for improved street lighting increased from 105 in 1952-53 to 114 at the end of June, 1954. This increase was due to the development of unimproved streets and tracts in various sections of the City.

Requests for the installation of shades on the house-side of street lights were discouraged, because this tends to reduce street illumination by eliminating light reflected from buildings upon the sidewalk and street area.

With the cooperation of the Police Department, interested citizens, the Pacific Gas and Electric Company, and also field inspection by this Bureau, the number of lights reported out of service totaled 8,552, representing a saving of \$852.29 in outage credits. The number of outages decreased from 9,371 in 1952-53 to 8,552 at the end of June, 1954. This decrease was due to changing standard lamps of 1,500 burning hours to group replacement lamps with 3,000 burning hours, and the creation of 12 new street lighting districts with each lamp changer responsible for his area.

## ENGINEERING AND CONSTRUCTION

Following are the major streets on which street lighting jobs were completed this fiscal year:

Valencia St., Market St. to Mission St.  
San Jose Ave., Ocean Ave. to Monterey Blvd.  
San Jose Ave., Monterey Blvd. to Randall St.  
Lakeshore Country Club Acres, Part No. 2.  
Clay St., Arguello Blvd. to Scott St.  
Precita Ave., Folsom St. to Army St.  
West Portal Ave., Ulloa St. to Sloat Blvd.  
24th St., So. Van Ness Ave. to Vermont St.  
Laguna Honda Blvd., Clarendon Ave. to Dewey Blvd.

A complete list of new and modernized street lighting jobs completed in 1953-54 is shown in an additional table elsewhere. Overall cost was \$191,340, which brought the total investment in city-owned street lighting to \$3,633,835. Of this total investment, 72%, or \$2,612,607, was expended by the City, the remainder being acquired from other governmental agencies and by deed from tract development owners, all as indicated in the table.

The important functions of rendering engineering, consultant and inspection services to other city departments requesting technical assistance, was continued by this Bureau during the fiscal year. Typical examples include services to the Bureau of Architecture for electrical consultant and advisory service regarding the design of electric power and lighting systems for new schools, libraries, etc.; to the Recreation and Park Department for plans and specifications for interior lighting, power distribution lines and floodlighting playgrounds; to the Water Department for the design of controls for water level and motor operation; and to the Youth Guidance Center for plans and specifications for the installation of an electronic sound security system.

## GAS AND ELECTRIC SUPPLY

During the fiscal year, 10,621,677 C/cubic feet of natural gas, 1,722,800 pounds of steam, and 157,056,490 kilowatt hours of electricity were used for municipal purposes, exclusive of electric energy used for street lighting. The City paid \$421,765 to the Pacific Gas and Electric Company for gas and steam, and the various city departments paid \$1,749,302 to Hetch Hetchy for electricity.

The overall use of electricity (kilowatt hours) for municipal purposes shows a decrease of 0.26% as compared to 1952-53. The use of natural gas increased 2.6% over last fiscal year.

The price of fuel oil remained at \$1.90 per barrel during the fiscal year. Therefore no change was reflected in the commodity costs of such gas and electric accounts as are affected by the change in fuel oil prices. The option of billing at a flat rate of two cents (2¢) per kilowatt for power and two and three-quarter cents (2¾¢) per kilowatt for lighting, is continued by this Bureau in favor of the department involved when it is apparent that electrical usage is below a pre-determined "break-point" when each of the flat rates is compared yearly to a regular schedule for similar services.

## RATE ADVISORY WORK AN IMPORTANT FUNCTION

One of the important functions of the Bureau is that of rate advisory work which deals with the interpretation and application of the various gas and electric rate schedules. This Bureau provides services which embrace supervision of metering, meter installation, meter readings, and billing of the city-owned electrical distribution system at the San Francisco International Airport.

A constant physical survey of plant operation and costs for various city departments is maintained to ensure that proper rate schedules are being applied. This often discloses reasons for changes to plant or plant operation that will result in a lower cost for gas or electricity. If it is found that a change in rates for any department will result in lower costs, this Bureau so recommends and will render the necessary engineering assistance.

## AIRPORT BILLING UP

At the San Francisco International Airport, the city-owned distribution system supplied 20,109,680 kilowatt hours through 54 meters and 8 flat-connected accounts, to 32 tenants at the rates on file with the City and County of San Francisco Public Utilities Commission. A total of \$230,245.62 was collected and credited to the Airport account at a profit of \$47,194.64.

**Special advisory work is performed by the Bureau of Heat, Light and Power in the installation of incandescent and fluorescent lighting in schools, courtrooms, libraries and other public buildings.**



## CONSTANT CHECK KEPT ON CITY TRAFFIC LIGHTS

The traffic signals under the jurisdiction of the Department of Public Works require constant supervision by this Bureau to determine the proper monthly billing on a flat basis per unit of time per type of signal. In June, 1954, there were 3,376 of the 3-light type, 354 of the Wiley-type, and 511 neon walk-wait signals in operation, as well as 131 other miscellaneous types.

A glance at the ten year statistical chart below will show the interesting comparison between the number of street lights owned and serviced by the Bureau in relation to expenditures, percentage of tax money involved and average cost of lamp per year.

The figure of 27,000 lights in operation throughout San Francisco has remained fairly constant during the past five year period.

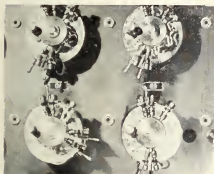
No new installations, of any great number, are planned for the year.

### REVIEW OF STREET LIGHTING COST 1934-1954

Fiscal Year	No. Lights at Close of Year	Expenditures \$	% of Taxes	Avg. Cost Per Lamp per Year \$
1934-35 .....	20,383	698,701.94	2.32	34.28
1935-36 .....	20,060	677,128.37	2.24	33.76
1936-37 .....	20,576	674,869.86	2.15	32.80
1937-38 .....	21,378	711,737.60	2.21	33.29
1938-39 .....	22,028	728,786.00	2.18	33.08
1939-40 .....	23,376	728,167.60	2.18	31.15
1940-41 .....	24,504	780,130.33	2.29	31.84
1941-42 .....	24,604	801,189.98	2.03	32.56
1942-43 .....	23,873	761,471.28	2.05	31.90
1943-44 .....	24,153	771,384.97	1.99	31.94
1944-45 .....	24,889	821,092.24	2.02	32.99
1945-46 .....	25,040	833,525.06	2.38	33.29
1946-47 .....	25,313	838,758.65	1.79	33.14
1947-48 .....	25,777	835,229.27	1.50	32.40
1948-49 .....	26,163	859,189.27	1.45	32.84
1949-50 .....	26,420	853,744.94	1.36	32.31
1950-51 .....	27,031	865,509.42	1.26	32.02
1951-52 .....	27,350	882,950.55	2.83	32.28
1952-53 .....	27,687	948,449.43	3.01	34.26
1953-54 .....	27,621	983,572.70	2.75	35.61

# NEW CITY-OWNED STREET LIGHTING CONSTRUCTION COMPLETED DURING 1953-54

Location	No. of Lights	Financed by	Value
Midtown Terrace, Subdivision #2.....	7	Property Owners	\$ 4,182
Valencia St., Market to Mission.....	57	BLH&P	33,488
San Jose Ave., Ocean to Monterey.....	33	"	20,694
San Jose Ave., Randall to Monterey.....	20	"	8,027
Lakeshore Country Club Acres, Part #2.....	22	Property Owners	15,672
Castro Street, Divisadero to Duboce.....	13	BLH&P	2,667
Clay Street, Arguello to Scott.....	50	"	27,743
Precita Avenue, Folsom to Army.....	23	"	13,996
Grandview Terrace at Grandview Avenue.....	3	Property Owners	2,574
West Portal Ave., Ulloa to Sloat.....	46	BLH&P	11,330
24th St., So. Van Ness to Vermont.....	53	"	22,448
Stevenson Street at 10th St.....	1	"	310
St. Mary's Square.....	3	Property Owners	886
Bay Shore Freeway Pedestrian Overcrossings at 18th St., 22nd St., 24th St., 25th St.....	9	State	2,087
Bay Shore Freeway Soffit Lights at Brannan and Division Sts.....	4	"	187
Oakdale Avenue West of Griffith St.....	6	SF Hse. Auth.	1,239
Golden Gate Park, Main Drive at Stanyan, (Inc.) and Oak Sts..... (Fluor.)	4	DPW	6,355
Font Blvd. at Lake Merced Blvd.....	6	BLH&P	1,442
Laguna Honda Blvd., Clarendon Ave. to Dewey.....	18	DPW	10,288
Market Street, Hattie St. to Douglass St.....	6	"	2,099
Market Street at Grove and Hyde Sts.....	2	"	417
Geneva Avenue at Moscow Street.....	2	"	543
Army St., Bryant St. to Potrero Avenue.....	10	"	2,476
			<hr/> \$191,339



These Wiley traffic signal timers, used to control the time duration in many of the city's signal lights are gradually being replaced by electronic controlled equipment used in the new walk, wait, three and four light signals.

**Bureau of Light, Heat and Power**  
**Financial Results of Operation**  
**FISCAL YEAR 1953-1954**

**WHAT WE RECEIVED:**

By Transfer from Other Current Funds for Electricity and Gas—Interdepartmental.....	\$ 2,137,131
Special Road Improvement Fund.....	26,000
Ad Valorem Taxes.....	1,219,805
<b>TOTAL RECEIPTS .....</b>	<b>\$ 3,382,936</b>

**WHERE MONEY WENT:**

Salaries and Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits.....	\$ 102,101
*Miscellaneous .....	15,246
†Electricity and Gas for Street and Public Building Lighting and Other City Departments.....	3,140,194
Additions and Betterments.....	125,395
<b>TOTAL EXPENDITURES.....</b>	<b>\$ 3,382,936</b>
*Contractual Services .....	\$ 4,146
Maintenance and Repair of Structures .....	9,464
Material and Supplies.....	1,384
Insurance .....	252
	<hr/> \$ 15,246
†Electricity and Gas—Interdepartmental .....	\$ 2,137,131
Public Building Lighting.....	37,915
Lighting of Public Streets.....	965,148
	<hr/> \$ 3,140,194

## RECEIPTS



BY TRANSFER FROM  
OTHER FUNDS

ROAD IMPROVEMENT  
FUND

AD VALOREM TAXES



ELECTRICITY AND GAS

SALARIES, WAGES  
AND BENEFITS

MISCELLANEOUS

ADDITIONS AND  
BETTERMENTS

## EXPENDITURES



The broad, sweeping lines of San Francisco's new International Airport presents a striking view in this picture taken from the south ramp looking northeast.





# San Francisco International Airport



**FREDERIC B. BUTLER**  
Manager, Airport

The completion of the new fifteen million dollar terminal building and related facilities is anticipated early during the forthcoming fiscal year. When this phase of the airport development is complete and domestic and international air carrier operations accommodated in the new terminal building, the citizens of San Francisco will begin to realize the fruition of their investment. The San Francisco Airport emerges as one of the finest balanced civil airports in the world and possesses all facilities for the accommodation of passengers and the operation of aircraft. This development will give San Francisco assurance that our City will continue to be a focal point for world air routes. The air passenger traffic at the San Francisco International Airport ranks fifth of all the airports in the United States.

#### **MANY PROBLEMS CONNECTED WITH CHANGE-OVER**

The Commission and its staff are now confronted with one of the most challenging periods in the history of the airport development. This challenge concerns a multitude of problems relating to the transition of all major operations from the former domestic and transpacific terminal buildings to our new fourteen million dollar terminal development. Leases and other contractual agreements, requiring new concepts of rates and charges for airport rentals, have been or are being consummated with ten different scheduled air carriers who render passenger, mail, freight and express service to all parts of the world. At the conclusion of this fiscal year, leases and other contractual agreements pertaining to the following ten airlines had been resolved: American Airlines, California Central Airlines, Japan Airlines, Pacific Southwest Airlines, Pan American World Airways, Qantas Empire Airways Ltd., Southwest Airways, Trans World Airlines, United Airlines and Western Airlines (Slick And Flying Tiger Line).

#### **FEDERAL, STATE, CITY DEPARTMENTS REPRESENTED**

Negotiations are in progress covering the occupancy of space in the new passenger terminal building by the Overseas Foreign Aeronautical Communica-



A flying inspection tour of the fine facilities available at San Francisco's Airport was made recently by pretty Joan Smith, Braniff International 'Airways' hostess, in advance of the inauguration of through plane service to Texas by TWA and Braniff.



**One of the three tank farms serving the Airport with a never-ending supply of high octane aviation gasoline. The fuel is pumped underground from large storage tanks directly to aircraft in the terminal area. The gasoline is originally brought to the airport by barge from refineries bordering the bay.**

tion station of the Civil Aeronautics Administration, the U. S. Weather Bureau, and the Civil Aeronautics Administration Airport Traffic Control Tower. Other arrangements for occupancy of the new terminal building were being discussed preliminarily to provide for the establishment of a branch of the San Francisco Post Office in the new terminal building. Other important segments of the Civil Aeronautic Administration's services, including the Civil Aeronautics Administration's Air Carrier District Office (administrative) and International District Office, were also to be accommodated in the building and provision has been made for the U. S. Customs, Immigration, and Public Health Services.

#### **VARIETY OF SERVICES FOR THE TRAVELER**

Arrangements have been concluded on a percentage of gross receipts basis for the operation of various concessions that will provide the utmost in accommodations for the traveling public and other users of the San Francisco International Airport. Among the services introduced by the opening date are: Apparel Shop, Barber Shop, Book Store, Candy Shop, Flower Shop, Gift Shop, Newsstand and Tobacco Products, Restaurant, Cafeteria, Coffee Shop and Cocktail Lounges, Photographic Service, Sundries and Cosmetics, Ground Transportation Services and a Gasoline Service Station.

### SIGNIFICANT INCREASE IN REVENUE TO CITY

The foregoing concession agreements plus the new rental anticipated in the new terminal building and related structures are expected to increase the annual airport revenue for 1951-1955 to \$1,667,921, an increase in revenue estimate of more than  $\frac{1}{3}$  of a million dollars over the prior year's estimate. The Commission feels confident that this primary estimate of revenue will be substantially exceeded during the forthcoming fiscal year. As the growth of air transportation continues, the airport, while providing greater benefits to the City, will in itself, become financially self-sufficient.

During the fiscal year, United Airlines leased a substantial additional amount of property and has plans to continue their progressive development of facilities at the Airport.

American Airlines Inc. also entered into a lease agreement with the Public Utilities Commission and already has plans to proceed immediately with the development of a one million dollar aircraft service base.

Rick Helicopter Inc., one of the largest commercial helicopter operators in the world, concluded negotiations for the leasing of approximately  $4\frac{1}{2}$  acres and has initiated construction of hangar and operational facilities for the maintenance of their fleet of helicopters.

### OIL COMPANIES LEASE PROPERTY

The Standard Oil Company of California, recognizing San Francisco as the hub of Domestic and International air carrier operations on the west coast of the United States, leased property and are making arrangements for the installation of an underground fueling system connecting to the passenger loading

**A new and unique fire-fighting unit at San Francisco's International Airport is this dry-powder jeep used to quickly combat gasoline or oil fed blazes. It carries 350 pounds of special powder which is sprayed under great pressure. There are two companies of the S.F.F.D. stationed at the Airport, boasting a total complement of 28, which includes one captain and three lieutenants.**



**San Francisco International Airport**  
**Domestic and International Air Carrier Operations**

**REVENUE PASSENGER ACTIVITIES**

	Revenue Passengers In and Out		% Increase Decrease	Revenue Passengers On and Off		% Increase Decrease
	1952-1953	1953-1954		1952-1953	1953-1954	
July .....	211,122	224,840	06.5	170,172	182,502	07.2
August .....	223,326	244,785	09.6	172,010	189,022	09.9
September .....	214,730	221,481	03.1	168,905	179,829	06.5
October .....	205,346	209,640	02.1	165,141	168,323	01.9
November .....	183,152	180,309	-01.6	144,045	143,294	-00.5
December .....	187,619	186,816	-00.4	142,884	150,406	05.3
January .....	181,364	179,516	-01.0	138,908	143,296	03.2
February .....	167,148	170,059	01.7	132,030	137,718	04.3
March .....	198,419	184,906	-07.3	151,945	152,203	00.2
April .....	196,809	202,612	02.9	155,081	166,840	07.6
May .....	200,451	221,444	10.5	160,208	181,059	13.01
June .....	217,851	251,958	15.7	175,529	206,332	17.5
Fiscal Yr.....	2,387,337	2,478,366	03.8	1,876,858	2,000,824	06.6

**San Francisco International Airport**  
**Domestic and International Air Carrier Operations**

**AIR MAIL AND AIR EXPRESS-FREIGHT**

	Pounds of Air Mail		% Increase Decrease	Pounds of Air Express-Freight		% Increase Decrease
	1952-1953	1953-1954		1952-1953	1953-1954	
July .....	2,202,806	2,341,994	06.3	3,815,992	4,074,181	06.8
August .....	2,207,639	2,314,565	04.8	4,049,107	3,870,323	-04.6
September .....	2,174,975	2,307,760	06.1	4,003,253	4,027,598	00.6
October .....	2,417,849	2,468,921	02.1	4,336,299	4,362,447	00.6
November .....	2,438,295	2,449,088	00.4	3,599,043	3,624,113	00.7
December .....	3,408,893	3,663,598	07.5	3,825,811	3,988,047	04.2
January .....	2,368,462	2,235,258	-05.9	3,436,802	3,440,143	00.1
February .....	2,154,643	2,303,747	06.9	3,319,738	3,364,654	01.4
March .....	2,483,192	2,379,098	-04.4	3,630,404	3,890,101	07.2
April .....	2,418,764	2,441,295	00.9	3,548,276	3,851,015	08.5
May .....	2,440,742	2,373,730	-02.8	3,530,022	4,010,495	13.6
June .....	2,287,916	2,245,542	-01.9	3,736,284	4,191,352	12.2
	29,004,176	29,524,596	01.8	44,830,031	46,694,469	04.2

San Francisco International Airport

AIRCRAFT MOVEMENTS

	Air Carrier		Itinerant		Local		Total		% Increase		% Increase	
	1952-53	1953-54	1952-53	1953-54	1952-53	1953-54	1952-53	1953-54	1952-53	1953-54	1952-53	1953-54
July.....	8,978	9,973	2,072	2,991	1,821	2,839	12,874	15,806	55.6	22.8	13,815	14,777
August.....	9,363	10,201	2,101	2,707	2,078	1,866	13,815	14,777	-11.1	66.7	14,326	15,465
September.....	9,822	9,875	2,350	2,885	2,151	2,705	14,326	15,465	25.6	07.9	14,400	15,388
October.....	9,920	10,216	2,333	2,612	2,147	2,560	14,400	15,388	19.2	06.9	13,857	13,583
November.....	9,514	9,552	2,213	1,885	2,130	2,146	13,857	13,583	00.8	-02.0	13,509	14,423
December.....	9,821	10,129	1,668	2,276	2,020	2,018	13,509	14,423	-00.1	06.8	13,934	11,391
January.....	9,625	10,091	1,799	1,900	2,510	2,400	13,934	11,391	-01.6	03.3	11,696	13,993
February.....	8,215	9,253	1,670	2,095	1,811	2,615	11,696	13,993	16.1	19.6	14,636	16,278
March.....	9,588	10,167	1,933	2,296	3,115	3,815	14,636	16,278	22.5	11.2	14,720	17,092
April.....	9,324	10,490	2,195	2,827	3,201	3,775	14,720	17,092	17.9	16.1	14,687	16,289
May.....	9,678	10,981	2,341	2,823	2,668	2,485	14,687	16,289	-07.1	10.9	15,010	16,124
June.....	9,512	10,996	2,842	2,598	2,656	2,530	15,010	16,124	-04.9	07.4	167,194	183,609
.....	113,360	121,927	25,820	29,898	28,314	31,784	167,194	183,609	12.2	09.6		



Truly amazing is the number of passengers carried on a modern airliner, as shown in this recent American Airlines charter flight.

apron of the new terminal building. This will be one of the most modern and comprehensive installations of this type thus far developed to service civil aircraft. All costs are being assumed by the Standard Oil Company of California.

The Shell Oil Company already leases a substantial amount of airport property for the distribution of fuel to their customers.

#### **CONTINUED SUPPORT OF CARRIER SERVICE**

The Public Utilities Commission continued its policy of supporting the acquisition of air carrier service between San Francisco and many other points of common interest throughout the United States and foreign countries. The Public Utilities Commission has been represented by members of its staff and the City Attorney at various Civil Aeronautics Board hearings in support of improved scheduled air carrier service.

#### **NEW AIRPORT MANAGER**

The Manager of Utilities appointed Frederic B. Butler as Manager of the Airport Department, effective February 16, 1954, succeeding George M. Dixon, who had submitted his resignation, effective February 15, 1954.



**Blending a truly international flavor to the International Airport, stewardesses of Japan Air Lines distribute magazines printed in Japanese or English. Japan Air Lines' flights are manned by American pilots with Japanese crews.**

#### **OPERATIONAL CHANGES DURING YEAR**

In February of 1954, Japan Airlines inaugurated operations between San Francisco and the Orient. During the year, Qantas Empire Airways Ltd. inaugurated their services from the San Francisco International Airport absorbing the route between San Francisco and Australia, previously operated by British Commonwealth Pacific Airlines Ltd. Philippine Airlines discontinued the segment of its route between San Francisco and the Philippine Islands during the year.

The Flying Tiger and Slick Airways appealed to the Civil Aeronautics Board requesting permission to merge its operation into one carrier. During the fiscal year, the name of these two largest all freight scheduled air carriers in the world, merged their operations and the name became Flying Tiger-Slick Airlines.

#### **JUNE 1954 SHOWS RECORD**

The records show that air transportation is continuing its phenomenal growth. During the fiscal year, 2,478,366 revenue passengers were served on



scheduled airlines at the San Francisco International Airport. This represented a 3.8% increase over the previous fiscal year's traffic. It is interesting, however, to note, that during the latter part of 1953 and the early part of 1954, there was actually a decrease in passenger traffic; however, toward the end of the fiscal year there was a definite upward surge in air traffic. This can best be reflected by the fact that in June of 1954, a record was established when 251,958 revenue passengers were handled. This was an increase of 15.7% over the previous fiscal year.

### **STEADY RISE IN AIRCRAFT MOVEMENTS**

Air Mail poundage at the San Francisco International Airport amounted to 29,524,596 pounds, in and out, an increase of 1.8% over the previous fiscal year. Air Express and Air Freight totaled 46,694,469 pounds for an increase of 4 $\frac{1}{10}$ % over the previous fiscal year. The aircraft movements of all types, including air carrier, itinerant aircraft, local and military, rose to 183,609 landings and take-offs which was 9 $\frac{1}{10}$ % more than the previous year. The most substantial increase in aircraft operations was that of itinerant aircraft operated by corporations and private owners between the San Francisco International Airport and other cities. The movements of the itinerant inter-city aircraft was 29,898 for an increase of 15.8%.

### **AIRPORT'S FINANCES IMPROVED**

The total revenue of the San Francisco International Airport during the past fiscal year amounted to \$1,365,726. This amount exceeded all costs except bond redemption by \$221,767. This indicates a significant improvement in the financial status of our great Airport. In order to further stabilize the future economic aspects of the Airport, the Public Utilities Commission, through representation made by the City Attorney, appealed to the Federal Court of the United States, with respect to certain "favored nations" provisions included in an airline lease and pertaining to "common use" airport facilities charges. The Federal Court rendered a decision confirming the Public Utilities Commission's authority in the matter of rates and charges for "common use" facilities.

### **FLIGHT FESTIVAL OF SPECIAL SIGNIFICANCE**

During the month of April, 1954, the name of the San Francisco Airport was officially changed to the San Francisco International Airport.

With Mayor Elmer E. Robinson as Honorary Chairman, comprehensive plans, calling for a three-day Flight Festival, celebrating the opening and dedication of the new San Francisco International Airport Terminal Building, have been arranged through the cooperation of the Public Utilities Commission of the City and County of San Francisco. Public Utilities Commissioner Edw. B. Baron was selected to represent the Commission on the Dedication and Flight Festival Committee.

The cooperation of all of the segments of the airline industry and their attitude toward the dedication of the new International Terminal Building, has become one of the highlights of civic and business activity and enterprise in the history of San Francisco.

# San Francisco Airport Financial Results of Operation

## FISCAL YEAR 1953-1954

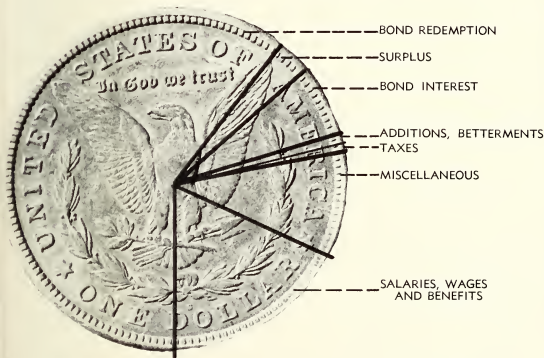
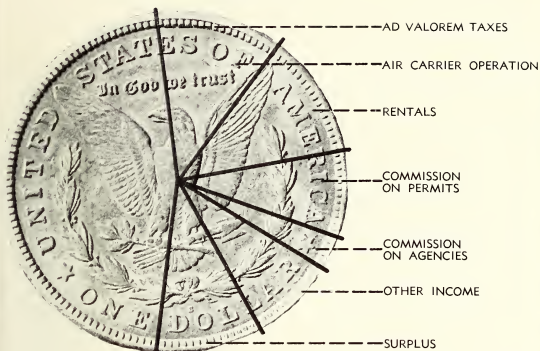
### WHAT WE RECEIVED:

Air Carrier Flight Operations.....	\$ 394,168
Rentals .....	370,452
Commission on Permits Outside Passenger Terminal Building .....	257,817
Commission on Agencies.....	110,142
Other Income.....	263,975
<b>TOTAL REVENUE .....</b>	<b>\$ 1,396,554</b>
Prior Year's Surplus.....	\$ 296,966
Ad Valorem Taxes.....	1,466,892
<b>TOTAL RECEIPTS .....</b>	<b>\$ 3,160,412</b>

### WHERE MONEY WENT:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits.....	\$ 564,095
*Miscellaneous .....	333,043
Taxes .....	9,808
Additions and Betterments.....	13,276
Bond Interest .....	226,392
Bond Redemption .....	1,904,000
<b>TOTAL EXPENDITURES .....</b>	<b>\$ 3,050,614</b>
Transferred to Surplus.....	109,798
	<b>\$ 3,160,412</b>
 *Contractual Services .....	 \$ 73,873
Water, Heat, Light and Power .....	206,568
Material and Supplies.....	28,907
Insurance .....	22,660
Other .....	1,035
	<b>\$ 333,043</b>

## RECEIPTS



## EXPENDITURES

STREETERS



WEST BOU



# Municipal Railway

**CHARLES D. MILLER**

Manager, Municipal Railway

## GENERAL OBSERVATIONS

The fiscal year ended June 30, 1954, marked the completion of forty-one and one-half years of continuous operation of the Municipal Railway, the last nine and three-quarter years being consolidated operation with the acquired properties purchased from the Market Street Railway Company on September 29, 1944. This period also includes almost two and one-half years of operation of the acquired California Street Cable Railroad Company since January 13, 1952.

The San Francisco Public Utilities Commission, as the civic body charged with the responsibilities for the maintenance, operation, and rehabilitation of the Municipal Railway, together with the operating management of the railway, have sought to provide the more than 675,000 daily riders of the railway with adequate modern transit service at the lowest possible charge for the service.

As of June 30, 1954, after the sweeping transit changes made under the various conversions, and with funds provided from the \$20,000,000 bond issue and supplemented by the amount of \$723,000 received from the sale of surplus land and buildings, which funds are now all expended except for minor balances, the present "New Municipal Railway" system presents a vastly changed and improved type of transit system, and acknowledged to be one of the most modern surface transit systems in the nation.

## COACH OPERATION CUTS LOSS

The extensive conversions made from the more expensive rail operation to less costly rubber-tired operation have resulted in greatly minimizing the losses experienced from what they would otherwise have been.

## SERVICE INCREASED

No sacrifice in service has been made through the conversions as is evidenced by the fact that as compared with the fiscal year 1945-46, eight years previous, when the railway operated 29,454,947 miles, the operated mileage in 1953-1954 totaled 29,575,474 miles, an increase of 120,527 miles. This is an increase of 0.4 per cent in mileage service to accommodate 114,529,940, or 35.1 per cent less total passengers, or 91,113,911, or 37.3 per cent less revenue passengers compared with the year 1945-1946.

Framed against a passenger volume graph for the Shoppers Shuttle are three of the 22 members of the Railway's Scheduling Department. It is their responsibility to dovetail the different working shifts of more than 2,000 operators with 1,000 vehicles on 70 transit lines to accommodate an average of 700,000 passengers a day.

## STATISTICS OF OPERATION

For the twelve months ended June 30, 1953, results of operations showed a profit of \$493,981.31, due to the increased revenue received.

However in the past fiscal year, 1953-1954, a continued decline in riders has taken place resulting in a decrease in gross passenger revenue from \$23,328,178.63 in 1952-1953 to \$21,976,836.07 in 1953-1954, a decrease of \$1,351,342.56 or 5.79 per cent.

While economies in operation during the year greatly reduced operating expenses, the railway experienced a net loss of \$925,515.09 for the fiscal year ended June 30, 1954.

A review of the figures on passengers carried in the peak fiscal year of 1945-1946 as compared with the fiscal year 1953-1954 will show the great decline in riders that has taken place during the past eight years.

Total passengers carried declined from 326,007,393 in 1945-1946 to 211,477,453 in 1953-1954, a decrease of 114,529,940, or 35.1 per cent.

While this great decrease in riders has taken place, from the riders carried eight years ago, the service rendered in the past year is 120,527 miles, or 0.4 per cent, greater than that rendered in 1945-1946.

Therefore, the railway is now providing annually 0.4 per cent more mileage service and operating with far more modern equipment than eight years ago to accommodate 91,113,911, or 37.3 per cent, less revenue passengers, and 114,529,940, or 35.1 per cent, less total passengers.

The financial results of operations for the fiscal year ended June 30, 1954, after provision for accidents, depreciation, bond interest, retirement, and removal charges, showed a net loss in the amount of \$925,515.09 as compared with a profit of \$493,981.31 in the previous year.

This represents a decrease in the net profit from operations over 1952-1953 in the amount of \$1,419,496.40.

There has been a decline in passenger revenue of 5.79% over last year. This decline is much less than that experienced by other transit lines of the United States. For the six months period ended June 30, 1954, compared with the same period ended June 30, 1953, for cities with a population of over 500,000 but less than 1,000,000 the decline of total passengers carried amounted to 10.78%.

This decrease in passengers carried by the Municipal Railway has resulted in a loss in revenue of \$1,351,431, which is the major item accounting for the difference between last year's net profit and this year's loss.

## NATION-WIDE TRANSIT ILLS

Though it is an undisputed and acknowledged fact that mass public transit in our cities is an absolute necessity for their well-being and functioning, we now find almost universally throughout the nation that public transit systems are confronted with so many and varied problems as to threaten the solvency and operation of many of them.

The continued and mounting inroads of the private automobile has progressively taken riders from public transit, resulting in great losses in revenue.

The systems still have to furnish the more costly peak hour services under increasing congested traffic conditions, but have lost much off-peak business when they have ample capacity.

Another factor is the change in pattern of our cities called decentralization requiring longer hauls and greater coverage in less densely populated areas.

Saturday business has been greatly reduced by the five-day work week which is being more and more adopted by industry.

Sunday business has also fallen off greatly due to the loss of riders to the private automobile.

Night travel has likewise greatly decreased, the effect of television being a major contributing factor.

Business has been concentrated to two rush hour periods five days a week, possibly for twenty to twenty-five hours each week, but requiring full capacity of vehicles and operators to handle these periods. About half of the equipment is idle in other periods.

Labor and material costs have continued to mount, and fare increases have helped only to a point, after which the loss of riders, due to fare increases, nullifies to a great extent the object of increased revenue sought.

The cities have found their costs of government have mounted because of the necessity of additional public services to outlying areas and have also found their former concentrated business areas, from which great tax income has always been received, now beginning to suffer as a result of traffic congestion and change in property values.

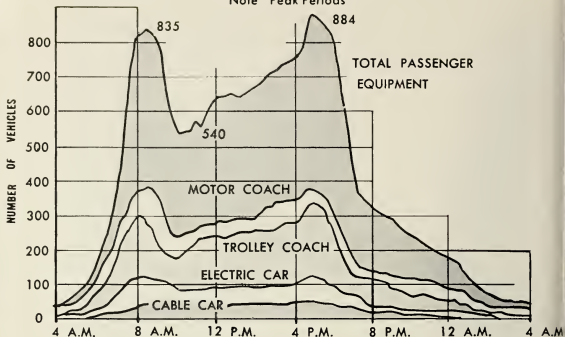
These are some of the problems now confronting the transit industry and calling for solution.

**Recently completed were extensive repairs and remodeling to the Railway's 24th and Utah Garage. Approximately \$150,000 was spent on rehabilitation and much-needed heavy equipment. The Garage now stands as a modern, efficient service center for the Railway's fleet of coaches.**



## TYPICAL WEEKDAY SCHEDULE

Total Passenger Equipment  
Note "Peak Periods"



### SCHEDULE AND TRAFFIC DEPARTMENT

In keeping with the policy of maintaining close contact with actual conditions as they exist on the lines and system the Schedule and Traffic Department experienced a year of considerable activity as indicated by the following figures:

Passenger traffic checks made.....	532
Running time checks made.....	135
Special traffic studies made.....	24
New schedules drafted and used.....	251
New schedules drafted for future use.....	47
New schedules drafted but not used.....	78
Total new schedules drafted.....	376
Revisions of existing schedules.....	132

### RUNS-MANPOWER-VEHICLE REQUIREMENTS

At the mid-year point, schedules included 1,286 runs requiring 1,510 men—the remainder of the platform force being extra men. Eight hundred and eighty-four cars and coaches were required to fill peak period schedules.

#### "8 IN 10" RUNS

Working shifts for operators during the fiscal year were made on the basis of the temporary "8 in 10" court order of March 1952. Mid-day service was, therefore, scheduled in accordance with meeting these requirements.



### **RUNNING TIME—"SWITCHBACKS"**

A definite effort has been made to provide realistic running time based on actual operating conditions at the various times of the day and night including a reasonable amount of recovery time at terminals to absorb minor delays where practicable. Any considerable delay for any reason tends to cause "switchbacks" where cars and coaches must be turned short of the intended terminal. They indicate interruptions to service and inconvenience to patrons. Those due to fires, blockades and accidents are practically unavoidable. The following figures show the decrease in the number of switchbacks over the past several fiscal years, indicating an improvement in the quality of service being furnished to patrons:

	<i>Total for Fiscal Year</i>	<i>Average Per Day</i>
1950-1951 .....	47,034	129
1951-1952 .....	32,348	88
1952-1953 .....	26,127	72
1953-1954 .....	18,682	51

### **GENERAL INFORMATION BUREAU**

As a means of providing improved telephone information service it was decided in 1952, to centralize all of the information calls through one office rather than through several departments and divisions of the railway.

This office is open daily from 7:00 a. m. to 10:00 p. m. week days, Saturdays, Sundays and holidays.

During the past fiscal year the Central Information Center handled 340,716 information calls.

Since starting on February 4, 1952, the center has handled 764,670 calls.

In addition, the information center handled 2,359 complaints during the year of which 1,462 were referred to other departments of the railway, while the balance of 897 were handled by the central office.

The railway has received a number of commendations for the excellent service this information center has been able to render. Many visiting transportation men have visited the center, some asking for further information that would enable them to set up similar departments on their property.

### **CENTRAL LOST AND FOUND**

One of the departments of the Railway that is continually before the public, and has been commended by hundreds of grateful Railway patrons, is the Central Lost Property Department.

The Department is located at 949 Presidio Avenue and is open every weekday from 8:00 a. m. to 5:30 p. m. and to 12:00 noon on Saturdays.

Most articles are held for thirty days, but valuable items such as wrist watches, purses and money are held at least sixty days before they are written

off and returned to the finders. Of course every effort is made to locate the rightful owners through the scanning of Lost and Found ads in newspapers and the searching of the article itself for possible identification.

During the past year this busy department handled 13,503 articles, of which 5,175 were returned to their owners. Money and checks turned in totaled \$16,609 and \$16,255 was returned to owners.

### **RADIO CONTROL SYSTEM AND HEADWAY RECORDERS**

In line with modern transportation methods, during the past year the two facilities which were inaugurated in the fiscal year 1946-1947, designed to speed up schedules and to control and improve service, were continued and improved in operation.

One is the two-way radio installation with transmitter located on Twin Peaks. This installation provides contact with two-way radio-equipped mobile units. The other is a headway recorder system electrically recording headways. Both installations are operated from a central control room at the Geary Street Carhouse.

Central Control radio station with twenty-nine mobile units was inaugurated on January 6, 1947 and on October 29, 1953 one additional unit was added and assigned to the Claims Bureau. Present call letters assigned by the Federal Communications Commission are KMA-672. Mobile unit call letters are KA-4402.

Central Control is equipped with headway recorders to handle forty locations, two contactors at each location, to record cars and trolley coaches traveling in both directions. The present number of locations at which headway recorders are operated is thirty-five.

Central Control is in operation daily from 6:00 a. m. to 2:00 a. m., during which time the Central Control Inspector on duty receives and answers all radio and telephone calls pertaining to the operations of the railway and checks the headway recorders. Telephone communication is routed through the main telephone switchboard operated by the railway.

Reports of all operators of Central Control are made daily and forwarded to the various department heads. A file of all reports is maintained in the Central Control office.

### **ACTIVITIES FOR CIVILIAN DEFENSE**

The Municipal Railway, as an integral part of the city's overall defense program, has cooperated and participated in a number of test alerts, Civil Defense Command Post Exercises, both city, state and nation, and has held a continuing series of interdepartmental conferences and planning sessions aimed at fitting the vast facilities of the Railway into the master defense plan for San Francisco.

Standby gasoline generators have been installed at Railway headquarters, 949 Presidio Avenue, and at the station on Twin Peaks, to operate our Central Control Radio Station in case of power failure. These were inspected periodically during the year.



The miles of track throughout San Francisco must be constantly checked and repaired by Railway maintenance crews. Just recently a worn curve section at 15th and Taraval was replaced and new pavement poured around the rails.

The Disaster Council has delivered to the Railway's various coach yards sufficient plywood stretcher boards and paper blankets to equip approximately 420 of our motor coaches into super ambulances to be used for evacuation in case of disaster.

The Railway will have the following equipment available in case of disaster:

Streetcars .....	185
Cable cars .....	67
Trolley coaches .....	398
Motor coaches .....	445
<b>TOTAL .....</b>	<b>1,095</b>

In addition, thirty-two radio-equipped vehicles, consisting of official, inspectors, wreckers and Line Department cars and trucks, are available and can be in service without undue delay. The Railway also has some eighty other motor vehicles available if needed.

## BUREAU OF PERSONNEL AND SAFETY

Total number of employees as of June 30, 1954 was 3,004 distributed as follows:


Platform .....	1,915
Shop and Track.....	697
Office and Supervisory.....	392

Limited tenure examinations were continued in the recruitment of operating personnel, and this process was expedited during the past year by arranging for candidates, who had passed the written test given by the Civil Service Commission to complete all other tests (driving, psycho-physical and medical) under the supervision of the Bureau of Personnel and Safety.

### TRAINING

During the fiscal year 1953-1954, 281 operating employees were trained by the Bureau of Personnel and Safety. In addition to this number, fifteen failed to complete training for various reasons. A total of 417 were rejected prior to entering service because of failure to qualify.

Instructors assigned to the Bureau made 12,413 contacts with operators in line service, which is a permanent function of the Bureau in keeping with its follow-up program. This program involves all phases of safety, mechanics, schedules and public relations.



REVENUE PASSENGERS	CALENDAR YEAR	VEHICLE MILES OPERATED
125,011,516	1943	11,872,821
169,464,705	*1944	16,268,268
252,186,037	1945	29,413,467
232,610,669	†1946	29,602,687
221,416,656	1947	29,729,323
212,338,948	1948	29,590,587
195,932,797	1949	31,283,532
183,419,710	1950	29,921,213
182,060,175	1951	29,401,287
168,031,865	‡1952	29,994,921
157,056,961	1953	30,060,662

\* Figures for calendar year 1944 include the consolidated operation of the acquired Market Street Railway Company and the Municipal Railway of San Francisco. Date of consolidated operation September 29, 1944.

† No operation for 4 days June 30 to July 3 inclusive, 1946, on account of strike conditions.

‡ No operation for 3 days Feb. 20 to Feb. 22 inclusive, 1952, on account of strike conditions. Figures for 1952 include operation of the acquired California Street Cable Railroad from January 13, 1952.

## ACCIDENTS

During the fiscal year 1953-1954 the total number of all types of accidents was 7,425 as compared with 8,408 during the fiscal year 1952-1953, a reduction of 983 accidents, or 11.69%.

The total number of operational accidents during the fiscal year was 6,393 as against 7,314 during the fiscal year 1952-1953, showing a reduction of 921 operational accidents, or 12.59%. Operational accidents include traffic, passenger and certain miscellaneous types of accidents.

### Traffic Accidents

	1952-1953			1953-1954		
	Miles	Accidents	Rate*	Miles	Accidents	Rate*
Electric Car.....	4,147,560	352	8.49	4,039,163	320	7.92
Trolley Coach .....	10,590,388	2,420	22.85	9,966,056	1,971	19.78
Motor Coach .....	14,981,737	1,624	10.84	14,777,994	1,414	9.57
Cable Car .....	834,209	535	64.13	792,261	429	54.15
System .....	30,553,894	4,931	16.14	29,575,474	4,134	13.98

### Passenger Accidents

	1952-1953			1953-1954		
	Passengers	Accidents	Rate**	Passengers	Accidents	Rate**
Electric Car.....	36,167,139	364	10.06	33,691,372	358	10.63
Trolley Coach .....	88,193,294	991	11.24	82,511,083	859	10.41
Motor Coach .....	84,138,577	795	9.45	82,476,172	789	9.57
Cable Car .....	13,482,248	233	17.28	12,798,826	253	19.77
System .....	221,981,258	2,383	10.74	211,477,453	2,259	10.68
Total Operational Accidents.....		7,314			6,393	
Non-Operational Occurrences ...		1,094			1,032	
Grand Total All Reports.....		8,408			7,425	

\*Traffic Accidents per 100,000 Miles.

\*\* Passenger Accidents per 1,000,000 Passengers.

Among the factors faced by the Railway in its constant effort to reduce the number of accident occurrences are: operating personnel turnover rate, still considered high although showing a decrease from 24% for the previous fiscal year to 19% for 1953-1954; increased exposure of equipment because of longer operating schedules made necessary by court decision; increasing density of private vehicle traffic also causing greater exposure. Despite the foregoing, the Railway's accident occurrences have been kept comparable with those of other organizations in the industry.

Regular inspections of shops, offices, buildings, equipment and grounds are made, resulting in recommendations for necessary changes to insure the maximum safety to both patrons and employees.

Employees' industrial accidents are analyzed and preventive measures are recommended to foremen in charge of their respective locations. Booklets, pamphlets and mimeographed safety material are distributed.

In cooperation with the San Francisco Police Commission, San Francisco Police Traffic Survey Department, and the City Traffic Engineer's Office the Railway's vehicles and traffic in general are expedited throughout the city by the installation of safety zones, coach zones, skip stops, and the establishment of no parking zones and tow-away streets.

### **DRIVER AWARD PROGRAM PROMOTES SAFETY**

The Safe Driver Award Program of the National Safety Council, which has been in effect on the Railway since 1949, has tended to stimulate safer operating practices among transit personnel. From an operational accident rate of 30.14 per 100,000 miles for the fiscal year 1949-1950 the rate has dropped to 21.62 for the fiscal year 1953-1954. During fifty-five months of the Safe Driver Award Program, through May 1954, a total of 2,119 One Year Awards, 848 Two Year, 398 Three Year and 202 Four Year Awards have been made to 1,585 of the operating personnel.

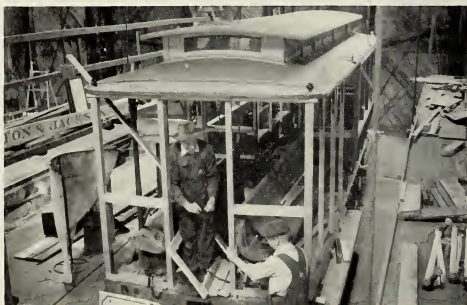
### **MUNI DRIVERS COMPETE**

For the past fiscal year a total of six platform employees were recipients of the top Driver of the Month Award, while three were runners up and were presented Distinguished Driving Awards, in the contest sponsored by the Truck Owners Association of California. The operators compete with drivers of commercial trucking firms in the northern part of the state as well as other transit properties.

### **RESUBMISSION OF BOND ISSUE IN TWO SEPARATE PROPOSALS**

As the need for further rehabilitation of the Railway for the purpose of providing better service still existed during the early part of the fiscal year, as well as the need of effecting economies in operation through further conversions and

**Aged cable car bodies undergo complete renewal, "from wheels to bell" in the Railway's Geneva shops. Many parts now have to be hand made.**



the use of new equipment, it was decided to re-submit the 1952 \$7,000,000 bond issue (which was defeated) to the voters in two separate proposals.

Proposition A Improvement Bonds in the amount of \$2,749,000 and Proposition B Rehabilitation Bonds, in the amount of \$3,871,000 were estimated to result in effecting operating economies of approximately \$280,000 annually.

Notwithstanding the endorsement and support of both proposals by the four metropolitan newspapers, as well as numerous other periodicals and a majority of the civic improvement organizations, both bond issues failed of approval by the voters at the election, November 3, 1953.

### **VOTERS APPROVE CHANGES ON JUNE 8**

Because of the necessity to drastically reduce operating expenses of the Municipal Railway and thereby lessen the drain on tax sources in San Francisco the Municipal Railway, early in 1954, was asked by the Public Utilities Commission to examine certain economies that could be effected and be submitted to the voters at the June 8 election.

Among the measures considered were the following:

a. Change in the "Two Man Car" ordinance to allow one man operation on 40 PCC cars, savings to the Railway estimated at \$500,000 annually. Approved by a vote of 90,828 to 77,051.

b. Revision of the existing platform wage formula basing rate on cities of 100,000 in population and companies having over 100 operators. Estimated savings \$528,338. Approved by a vote of 96,758 to 73,272.

c. Curtailed cable car operation to involve the No. 62 Hyde-O'Farrell line, the No. 63 Jones line and the No. 61 California line. Estimated saving \$449,191. Plan approved by the voters, 92,390 Yes, 80,584 No.

In addition, recommendations were also made for adjustments of schedules, night-time service changes and consolidations on certain lines to effect a total estimated saving of \$521,903. However, the changes as finally approved involved only one streetcar line, two trolley coach routes and three motor coach routes at an estimated annual saving of \$95,528.

### **NEW MUNICIPAL RAILWAY ACCOMPLISHMENTS**

As a result of the many conversion changes, extensions and reroutings, and new equipment and facilities placed in service, the railway can point to many note-worthy items reflecting its advancement. Some of these are noted as follows:

#### **REDUCED HEADWAYS**

1. On lines that have been converted from streetcar to motor or trolley coach operation, headways between vehicles have been reduced 40 to 50 per cent, thereby lessening waiting time.

## **INCREASE IN MILEAGE SERVICE OPERATED DESPITE GREAT DECREASE IN REVENUE PASSENGERS**

2. In the peak fiscal year of 1945-1946, the number of total passengers carried by the railway was 326,007,393, and the number of revenue or fare passengers was 241,450,767. For the past fiscal year 1953-1954, the total passengers carried amounted to 211,477,453, a decrease of 114,529,940, or 35.1 per cent, and revenue passengers totaled 153,336,856, a decrease of 91,113,911, or 37.3 per cent as compared with 1945-1946.

While this great decrease in riders has taken place from the riders carried eight years ago, the mileage service operated has increased from 29,454,947 miles in 1945-1946 to 29,575,474 miles in 1953-1954, an increase of 120,527 miles, or 0.4 per cent.

Therefore, the Railway is now providing annually 0.4 per cent more mileage service, or 120,527 additional miles, and operating with far more modern equipment than eight years ago, to accommodate 91,113,911, or 37.3 per cent, less revenue passengers and 114,529,940, or 35.1 per cent, less total passengers.

## **INCREASED SEATING**

3. Due to the increased number of vehicles operated, the railway now offers about 50 per cent more seats on converted lines during rush hour periods than there were available eight years ago.

## **NEW PASSENGER VEHICLES**

4. New modern passenger vehicles purchased and placed in service since 1947 total 658, consisting of 364 Trolley Coaches, 259 Motor Coaches and 35 Streetcars.

## **TROLLEY COACH OVERHEAD CONSTRUCTION**

5. The new trolley coach overhead wire system now totals 127 miles—an increase of 110 miles since 1946.

## **REMOVAL OF OLD STREETCAR TRACKS**

6. Worn-out tracks in a total amount of 197 single track miles have been removed from the city streets, and the streets repaved from curb to curb. Tracks totaling approximately thirty single track miles have also been removed from abandoned rights of way.

## **NEW OPERATING FACILITIES**

7. Modern new repair, storage, and maintenance facilities have been constructed at four locations. Facilities at two locations—Potrero and Presidio—are for trolley coaches; two at Kirkland and Ocean are for motor coaches.

At the Geary Street office building, improvements have been made, and new offices constructed. This location now houses formerly scattered departments and staffs in one central location with resulting increased efficiency.



## **EXPRESS AND LIMITED STOP SERVICES**

8. A noticeable service improvement is the "Express" or "Limited Stop" coach routes now being operated. At June 30, 1954, express service on five lines and limited stop service on eight lines were being operated. Further expansion of such service is being planned.

## **RETENTION OF FARES AT BELOW NATIONAL RATES**

9. For a period of about thirty-two years from December 28, 1912, to September 29, 1944, the railway retained the basic 5 cent fare with a free transfer on all lines. The 10 cent fare in effect on the Municipal Railway from January 26, 1949, through May 31, 1952, was considerably under the rates charged on the majority of comparable transit systems during this period when many other systems had fares ranging from 12 cents to 20 cents.

## **ESTABLISHMENT OF CENTRAL INFORMATION BUREAU**

10. During the past fiscal year, the Central Information Bureau handled 340,716 information calls. The total information calls handled since the establishment of this bureau on February 4, 1952, through June 30, 1954, totaled 764,670. In addition during the past year, this central office handled 2,359 complaints and wrote up 1,462 Passenger Service Reports from these complaints. The balance of 897 complaints was handled direct by the central office. Management has received many letters of commendation on this service.

## **MODERN SURFACE TRANSPORTATION SYSTEM**

11. The railway now presents in major part a modern and efficient public transit system operating new and clean vehicles and traversing 637 round trip line miles of streets.

The new trolley coaches now operating on the railway routes with the steepest grades have clearly demonstrated their ability to climb these grades, fully loaded, with ease and facility. One grade operated on the Union Street line is an 18.9 per cent grade.

With the aid of the modern mechanical coach-washing facilities at the Potrero, Ocean, Twenty-fourth and Utah, and Kirkland divisions, and with the enforcement of the no-smoking ordinance in the coaches, all motor and trolley coaches are being maintained in a clean and sanitary condition, both as to exteriors and interiors. All equipment has been painted in the standard green and cream colors. The system now operates:

- 7 Street Car Lines
- 3 Cable Car Lines
- 13 Trolley Coach Routes
- 41 Motor Coach Routes
- a total of sixty-four lines and routes.

# Municipal Railway Financial Results of Operation

## FISCAL YEAR 1953-1954

### WHAT WE RECEIVED:

Passenger Fares.....	\$21,976,748
Advertising Revenue.....	118,325
Miscellaneous Revenue.....	81,898
<b>TOTAL REVENUE .....</b>	<b>\$22,176,971</b>
Prior Year's Surplus.....	1,093,438
<b>TOTAL RECEIPTS .....</b>	<b>\$23,270,409</b>

### WHERE MONEY WENT:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits.....	\$16,169,563
*Miscellaneous .....	4,965,727
Taxes .....	-0-
Bond Interest .....	286,459
Bond Redemption .....	1,575,000
Additions and Betterments.....	2,348
<b>TOTAL EXPENDITURES .....</b>	<b>\$22,999,097</b>
Transferred to Surplus.....	271,312
	<b>\$23,270,409</b>
 *Material and Supplies.....	 \$2,083,912
Passenger and Damage Claims .....	1,407,284
Heat, Light and Power .....	726,113
Tire Rental .....	333,795
Other .....	414,623
	<b>\$4,965,727</b>

## RECEIPTS

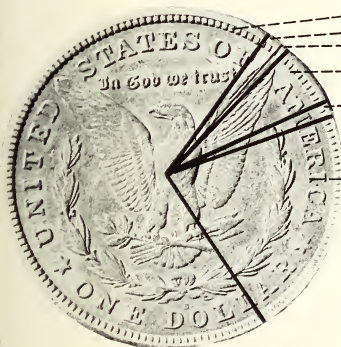


PASSENGER FARES

AD VALOREM TAXES

SURPLUS

MISCELLANEOUS



SALARIES, WAGES  
AND BENEFITS

SURPLUS

ADDITIONS, BETTERMENTS

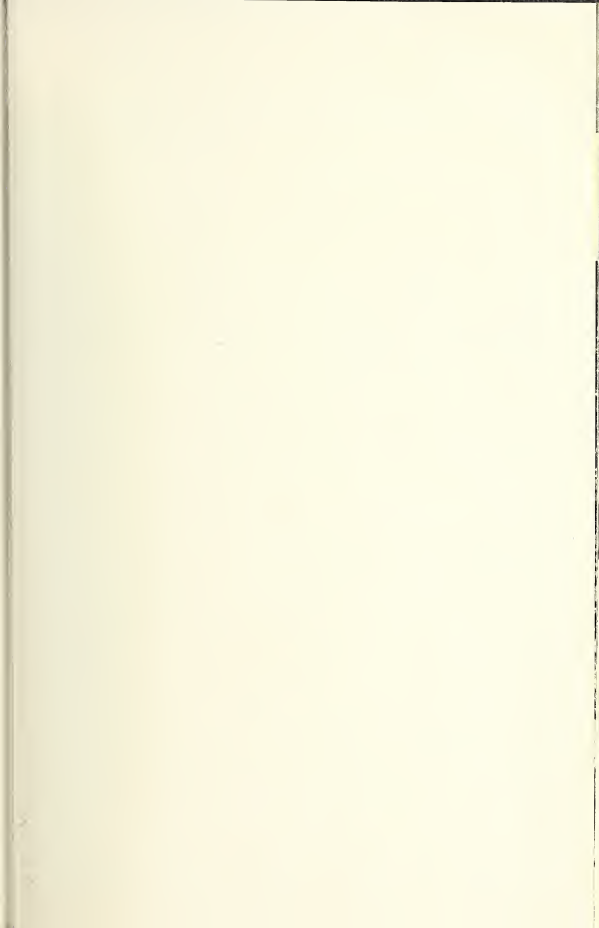
BOND REDEMPTION

BOND INTEREST

MISCELLANEOUS

## EXPENDITURES







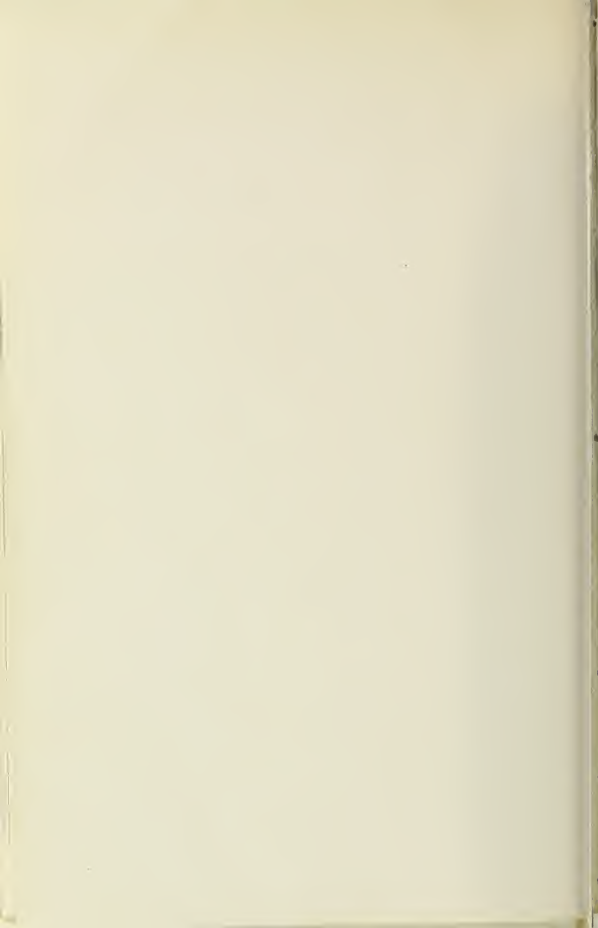
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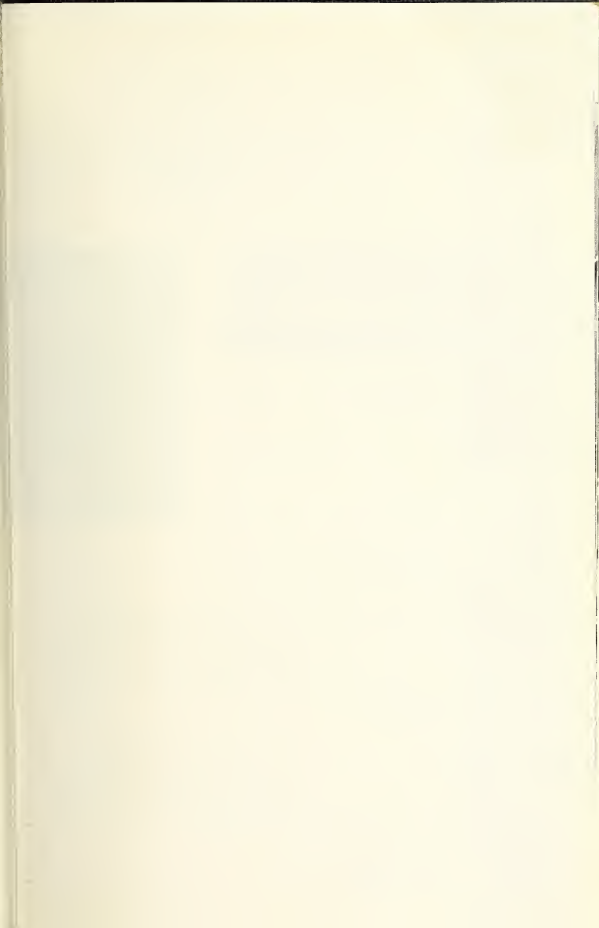
SAN FRANCISCO'S PUBLIC UTILITIES COMMISSION

# ANNUAL REPORT











**OLIVER M. ROSSEAU**  
Commission President



**VICTOR S. SWANSON**  
Commission Vice President



**EDWARD B. BARON**  
Commissioner



**DONALD A. CAMERON**  
Commissioner



**SAM McKEE**  
Commissioner



**JAMES H. TURNER**  
Manager of Utilities

## **SAN FRANCISCO'S PUBLIC UTILITIES COMMISSION 1954 - 1955**

**MAYOR  
ELMER E. ROBINSON**



### **PUBLIC UTILITIES COMMISSIONERS**

The Public Utilities Commission is appointed by the Mayor for a term of four years, the terms of the members being staggered. There are five members of the Commission which elects its own president and vice-president.

### **UTILITIES DEPARTMENT HEADS**

The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.

HETCH-HETCHY PROJECT  
BUREAU OF LIGHT, HEAT & POWER  
SAN FRANCISCO AIRPORT  
UTILITIES ENGINEERING BUREAU  
WATER DEPARTMENT  
MUNICIPAL RAILWAY

# ANNUAL REPORT

1954 - 1955

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LETTER  
FROM THE  
PRESIDENT

Hon. Elmer E. Robinson  
Mayor of the City and County of San Francisco  
City Hall, San Francisco

**My dear Mr. Mayor:**

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual condensed report covering activities and operations for the period beginning July 1, 1954 and ending June 30, 1955.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway of San Francisco; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco International Airport and the Bureau of Light, Heat and Power. In addition, there are three service bureaus comprising the Bureau of Accounts, Bureau of Personnel and Safety, and the Bureau of Public Service.

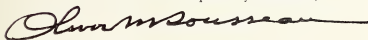
Detailed accounts of the activities and operation of these various departments will be found in the succeeding sections of this report.

The Commission held 54 regular and special meetings during the year, in the course of which 11 public hearings were conducted.

A budget was adopted by the Commission for the year 1955-1956 in the amount of \$55,730,346 and supplemental budgets totaled \$291,126.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent an appraised value of \$315,955,330. Truly a significant figure attesting to the wealth and progress of our city.

Respectfully submitted,



*President*  
Public Utilities Commission



San Francisco's Airport now boasts regular one-plane, one-stop service to Europe. The winged giant shown boarding passengers above flies non-stop to New York then proceeds non-stop to London; total time, 21 hours.

Careful maintenance is performed on the field's powerful runway lights. Remote controlled by the Tower the lights boast five intensities, are spaced at one every 200 feet on all runways. These runway beams are augmented by a modern center-line approach system leading from S. F. Bay.

Picture at right shows that convenient, easy parking is provided visitors and passengers to the Airport with this horseshoe-shaped 1,000 car main lot.

# San Francisco International Airport



FREDERICK B. BUTLER  
General Manager

## Dedication of New Terminal Building

With Mayor Elmer E. Robinson as Honorary Chairman, a comprehensive three-day "Flight Festival" celebrating the opening and dedication of the new terminal building was held in August, 1954. The celebration of the opening and the dedication was arranged through the cooperation of the Public Utilities Commission. Commissioner Edward B. Baron was selected to represent the Commission on the Dedication and Flight Festival Committee.

To give a full description of the three-day Flight Festival in the limited space of this report would be next to impossible. This tremendous civic event, the largest and most successful in the history of California aviation, spanned the three days of August 27,

28 and 29, 1954, allowing just enough time to remove the special displays and exhibits to prepare for the start of the terminal's regular operations on September 1, 1954.

Before the event started, the Dedication and Flight Festival Committee extravagantly estimated that the total attendance would approach the one-half million mark; however, at the end of the second day, the estimate was rapidly becoming a reality and by the final day of the dedication, over 558,000 persons had visited this newest and finest of the world's aviation facilities. The resulting publicity from this tremendous show has emphasized the importance of San Francisco as a focal point for world trade and commerce.



Credit must be paid to those responsible for this truly great event; namely, members of the San Francisco Chamber of Commerce, the San Francisco Jr. Chamber of Commerce and the many segments of the aviation industry including the scheduled air carriers, U. S. Air Force, U. S. Navy and the U. S. Coast Guard.

#### **PUC Sets Ambitious Goal**

The Public Utilities Commission, which has the responsibility for the establishment of policies concerning the San Francisco International Airport, has always endeavored to see that the basic landing field facilities and aids to air navigation have matched stride with the magnificent development of the world's air transportation system itself.

Fortified with thirty million dollars of capital, derived from general obligation bonds, as approved by the citizens of San Francisco since World War II, the Commission, through the devel-

opment of the San Francisco International Airport, has demonstrated its tremendous interest in aviation. This was emphasized when our new fifteen million dollar Terminal Building and related facilities was placed in operation on September 1, 1954.

#### **Change-Over Presents Complex Problems**

The opening of the new terminal building presented the Commission and its staff with one of the most challenging periods in the history of our airport development. This challenge concerned the multitude of problems relating to the transition of all major operations of both the former domestic and the transpacific terminal buildings to our new fifteen million dollar terminal development. Lease and other contractual agreements, requiring new concepts of charges for airport rentals, were consummated with ten different scheduled air carriers, who render passenger, mail and express service to all parts of the world.

A "Follow Me" jeep leads executive and corporation aircraft to their own terminal facilities at the Airport. The former terminal building is now devoted to the handling of such aircraft and also serves as headquarters for the field crew.





Considerable negotiations preceded the confirmation of governmental contracts covering occupancy of space by the Civil Aeronautics Administration, Overseas Foreign Aeronautical Communication Station, Airport Traffic Control Tower, Air Carrier District Office, International District Office, plus the United States Weather Bureau, United States Customs, Public Health and Immigration Services. In addition to the Post Office Department's occupancy of a new air mail field terminal facility, a branch of the San Francisco Post Office was established in the new terminal building.

### Concessions Provide Every Convenience

Through competitive bidding, arrangements were concluded, on a percentage of gross receipts basis for the operation of various concessions that provide the utmost in accommodations for the travelling public and other users of the airport. The concessionaires were required to make capital investments to finish the building areas occupied, guarantee a minimum monthly payment, or a percentage of

their gross receipts, whichever was the greater. Among the services introduced are a barber shop, book shop, candy shop, gift shop, flower shop, restaurant, sundries, public service counters, tobacco and newsstand, photography, insurance counter, etc. With the opening of the new terminal building, new contractual agreements were consummated and put into operation covering the various ground transportation services available to the public and the vehicular auto parking areas.

### Terminal Capable of Great Expansion

The new terminal facility is designed to handle three million in and out passengers per year, and with limited modifications, its capacity can be increased to five million passengers per year. Ultimately, the terminal facilities can be enlarged to handle ten million passengers annually. The terminal facility includes the Terminal Building proper, loading aprons, concourses, air mail and air cargo building and a stationary steam plant.

The landing areas at the San Francisco International Airport include

### Aviation Activities

The trend toward increased aircraft movements which started its climb in 1951 continued. The total aircraft movements during 1954-55 fiscal year were 214,914 or 17% over the corresponding prior year. The following increases in aircraft movements were registered for the fiscal year ending June 30th. Air Carriers—139,618, up 14.5%. Local—36,799, up 15.8%. Itinerant—38,497, up 28.8%.

### Scheduled Air Passenger Traffic, Fiscal Year 1954-55 vs. 1953-54

	1954-55	1953-54	Percentage (Increase)
Airline Trips, Arrivals and Departures . . . . . (Including extra sections)	139,618	121,927	14.5
Passengers, In and Out . . . . .	2,879,366	2,478,366	16.2
Passengers, Off and On . . . . .	2,401,538	2,000,824	20.0
Mail Pounds, Off and On . . . . .	33,245,457	29,524,596	12.6
Express Pounds, Off and On . . . . .	7,195,498	6,239,896	15.3
Freight Pounds, Off and On . . . . .	49,989,422	40,454,573	23.6

During the fiscal year, the Post Office Department inaugurated first class mail service by air at selected points. This new service benefited San Francisco and aided in bringing about an increase in the total mail pounds by air.

four runways, comprising a pair of dual runways ranging from 6,500 to 8,870 feet in length. A center line approach light system facilitates approaches to the instrument landing runway. The total property owned by the Airport is 3,722 acres, 2,000 of which are developed at this time.

The location of the San Francisco International Airport adjacent to the tidelands of the San Francisco Bay allows for unlimited expansion. Future plans call for additional runways and taxiways when justification for such expansion dictates. The improved Bayshore Highway has already reduced the travelling time to downtown San Francisco by automobile to twenty-five minutes. Further development of the highway will cut this time by car to eighteen minutes.

#### **Financial Matters—Revenue and Expenses**

The following comparative revenue and expense factors are applicable to the fiscal years ending June 30, 1954 and June 30, 1955. The revenues reflect the progress which has been made subsequent to our occupancy of, and operation in the new terminal building and related facilities. Airport revenue exceeded budget estimates by \$506,393.

Total estimated revenue for the fiscal year 1954-55 was \$2,512,666, an increase of 79.92% over the prior fiscal year. Scheduled air carrier flight operation revenues for the fiscal year ending June 30, 1955 was \$444,098, an increase of 13% over the previous corresponding period.

On August 9, 1954, the Public Utilities Commission adopted a new schedule of rates and charges for common-use facilities which was approved by the Board of Supervisors of the City and County of San Francisco on Au-

gust 23, 1954, effective September 1, 1954. The schedule of rates and charges set forth in a non-discriminatory manner rates applicable to air craft cargo, aircraft operations charges, new terminal building loading areas, delivery of aviation fuel, common dial inter-communications telephone system, porter service permit, permit for u-drive car rental service, scheduled air carrier public address and emergency alarm system, and permit for insurance policy vending machines in new terminal building and related structures.

Air Carrier charges are based on maximum aircraft takeoff weight at approximately 15½¢ per thousand pounds. The new schedule of charges provided air carriers with a volume discount. These fees include the use of the loading apron and the provision of public address system announcements.

The following tabulations indicate the substantial increases in revenue derived from various activities:

#### **Airport Focal Point for World Air Routes**

The Public Utilities Commission continued its policy of supporting the acquisition of air carrier service between San Francisco and many other points of common interest throughout the United States, Europe, South and Central America and across the Pacific. The Public Utilities Commission has been represented by members of its staff and the City Attorney at various Civil Aeronautics Board hearings in support of improved scheduled air carrier service.

The San Francisco International Airport has emerged as one of the finest balanced civil airports in the world and possesses all facilities required for the accommodation of passengers and the operation of aircraft.

This development and continued perseverance will provide San Francisco with assurance that our City will continue to be a focal point for world air routes. The air passenger traffic at the airport ranks fifth of all the airports in the world. Ten scheduled air carriers conduct regular operations from the San Francisco International Airport. They include: American Airlines, Inc., California Central Airlines, Japan Airlines Company Ltd., Pacific Southwest Airlines, Pan American World Airways, Inc., Qantas Empire Airways, Ltd., Southwest Airways Company, Trans World Airlines, Inc., United Airlines, Inc., and Western Airlines, Inc. In addition to the foregoing, Flying Tiger Line and Slick Airways Inc. conduct all scheduled freight flights.

#### Individual Carriers Develop New Facilities

During the fiscal year, Pan American World Airways, Southwest Airways Company and United Airlines, Inc. improved and expanded their administrative maintenance and operational facilities on the Airport. In addition, American Airlines, Inc. and Rick Helicopters, Inc. have under development hangar and operational facilities for the maintenance of their aircraft. The Standard Oil Company of California completed, at a cost of \$631,000, the largest and most modern underground aviation fueling system in the world.

#### Federal Airport Aid

The Public Utilities Commission and its staff have actively participated in and supported the Federal Airport Aid Act from which the City has realized approximately \$6,000,000.

The total investment in airport facilities is approximately fifty million dollars exclusive of the capital im-

provements provided by the scheduled air carriers for their maintenance and operational headquarters.

Today, nearly 10,000 people are gainfully employed on the Airport. The annual payroll during the fiscal year 1954-55 is estimated at \$54,000,000.

#### Statement of Revenue by Source Fiscal Year 1954-55

Percentage of Change Compared with Prior Year		%
Air Carrier Flight		
Revenue Source	1954-1955	Increase Decrease
Rentals (Less Listed		
Operations . . . . .	\$ 444,098.19	12.67
Concessions) . . . . .	704,827.15	180.29
Concessions		
Advertising . . . . .	7,102.00	*
Barber Shop . . . . .	2,518.47	*
Book Shop . . . . .	3,121.93	*
Candy Shop . . . . .	1,721.11	*
Flower Shop . . . . .	2,346.94	*
Gift Shop . . . . .	20,131.35	*
News Stand and		
Tobacco . . . . .	34,955.00	160.39
Photography . . . . .	1,088.81	*
Porter Service . . . . .	2,500.00	*
Public Service—		
Insurance . . . . .	60,402.11	311.16
Restaurant . . . . .	201,149.08	152.65
Shoe Shine . . . . .	2,993.63	136.18
Sundries . . . . .	19,687.14	*
Telephone Commission	11,488.13	20.62
	<u>\$1,076,032.85</u>	<u>190.83</u>
Permits		
Taxicabs and		
Limousines . . . . .	\$ 106,801.38	64.78
Parking Lot . . . . .	279,753.71	115.34
U-Drive . . . . .	91,819.31	48.03
Auto Service Station .	13,345.31	1,152.35
	<u>\$ 491,719.71</u>	<u>90.72</u>
Agency Commissions		
Petroleum Products . .	\$ 65,331.27	12.35
Baggage Lockers . . .	7,101.31	70.52
Rest Room Coin Locks	12,553.58	58.92
	<u>\$ 84,986.16</u>	<u>21.04</u>
Utilities—Resale		
Electric Energy . . . .	\$ 303,894.05	31.99
Water . . . . .	52,409.14	262.68
Steam . . . . .	3,556.96	*
Telephone Service . . .	18,987.88	403.24
	<u>\$ 378,848.03</u>	<u>52.47</u>
Miscellaneous . . . . .	\$ 36,981.36	—33.84
Total Revenues . . . .	<u>\$2,512,666.30</u>	<u>79.92</u>

\* New Activity.

You name is and chances are Air Freight handles it . . . race horses, kangaroos, kiwis, heavy machinery, Paris gowns, flowers, and of course the fragile little chicks pictured below who must be transported under exact controlled temperature and pressure conditions at all times.



### General Airport Facilities

1. **RUNWAYS**—Facilities consist of a pair of dual parallel runways ranging from 6,500 to 8,870 feet in length by 200 feet in width. Estimated capacity of runways during VFR (Visual Flight Rules) — 120 movements per hour. Simultaneous landings, and landing and takeoffs are permitted.

2. **APPROACHES**—Principal approaches are over the San Francisco Bay with no obstructions for several miles. Approach and takeoff patterns are over the Bay a high percentage of the time, thereby minimizing flight

Center line approach light system facilities operations on Runway 28-R.

3. **TAXIWAYS**—Comprehensive taxiway system has been provided which generally allows for simultaneous two-way taxiing of aircraft.

4. **RAMP ACTIVITIES**—Facilities at the new terminal building provide loading positions for twenty-eight four-engine aircraft, underground fueling facilities, lighting, power, etc.

5. **TERMINAL**—Two-level operation. All airline ticket counters visible from focal point at entrance to main floor. Baggage at counter lowered by hydraulic lifts.

## AIRCRAFT MOVEMENTS

Air Carrier	% Increase		Itinerant	% Increase		Local	% Increase		Local	% Increase	
	1945-55	Decrease		1954-55	Decrease		1954-55	Decrease		1954-55	Decrease
1953-54	1945-55		1953-54	1954-55		1953-54	1954-55		1953-54	1954-55	
9,973	11,370	14.0	2,994	3,251	08.6	2,839	2,651	-06.6	15,806	17,272	09.3
10,204	11,537	13.1	2,707	4,356	60.9	1,866	4,284	129.6	14,777	20,177	36.5
9,875	11,338	14.8	2,885	3,590	24.4	2,705	2,530	-06.5	15,465	17,458	12.9
10,216	11,635	13.9	2,612	3,902	49.4	2,560	3,343	30.6	15,388	18,880	22.7
9,552	11,386	19.2	1,885	2,653	40.7	2,146	2,463	14.8	13,583	16,502	21.5
10,129	11,894	17.4	2,276	2,381	04.6	2,018	2,478	22.8	14,423	16,753	16.2
10,091	11,998	18.9	1,900	2,259	18.9	2,400	2,508	04.5	14,391	16,765	16.5
9,253	10,875	17.5	2,095	2,594	23.8	2,645	3,360	27.0	13,993	16,829	20.3
10,167	11,896	17.0	2,296	3,520	53.3	3,815	3,741	-01.9	16,278	19,157	17.7
10,490	11,800	12.5	2,827	3,039	07.5	3,775	3,255	-13.8	17,092	18,094	05.9
10,981	12,220	11.3	2,823	3,713	31.5	2,485	3,391	36.5	16,289	19,324	18.6
10,996	11,669	06.1	2,598	3,239	24.7	2,530	2,795	10.5	16,124	17,703	09.8
121,927	139,618	14.5	29,898	38,497	28.8	31,784	36,799	15.8	183,609	214,914	17.0

### San Francisco International Airport Domestic and International Air Carrier Operations Revenue Passenger Activities

	Revenue Passengers		% Increase	Revenue Passengers		% Increase
	In and Out			1953-1954 - 1954-1955	On and Off	
	1953-1954	1954-1955	Decrease			Decrease
July . . . .	224,840	261,679	16.4	182,502	211,195	15.7
August . . . .	244,785	267,869	9.4	189,022	216,577	14.6
September . . . .	221,481	249,054	12.4	179,829	204,996	13.9
October . . . .	209,640	241,190	15.0	168,323	204,122	21.3
November . . . .	180,309	212,838	18.0	143,294	180,410	25.9
December . . . .	186,816	226,437	21.2	150,406	186,387	23.9
January . . . .	179,516	221,837	23.6	143,296	184,425	28.7
February . . . .	170,059	200,871	18.1	137,718	168,333	22.2
March . . . .	184,906	225,941	22.2	152,203	191,523	25.8
April . . . .	202,612	237,809	17.4	166,840	202,767	21.5
May . . . .	221,444	251,451	13.6	181,059	214,245	18.3
June . . . .	251,958	282,390	12.1	206,332	236,558	14.6
Fiscal Yr. . . .	2,478,366	2,879,366	16.2	2,000,824	2,401,538	20.0

### San Francisco International Airport Domestic and International Air Carrier Operations Air Mail and Air Express-Freight

	Pounds of Air Mail		% Increase	Pounds of Air Express-Freight		% Increase
	1953-1954	1954-1955		1953-1954	1954-1955	
			Decrease			Decrease
July . . . .	2,341,994	2,188,897	-06.5	4,074,181	4,679,055	14.8
August . . . .	2,314,565	2,414,994	04.3	3,870,323	4,674,816	20.8
September . . . .	2,307,760	2,291,578	-00.7	4,027,598	4,724,271	17.3
October . . . .	2,468,921	2,415,872	-02.1	4,362,447	4,345,119	-00.4
November . . . .	2,449,088	2,351,607	-03.9	3,624,113	4,780,924	31.9
December . . . .	3,663,598	3,741,288	02.1	3,988,047	5,022,634	25.9
January . . . .	2,235,258	2,974,530	33.1	3,440,143	4,128,151	20.0
February . . . .	2,303,747	2,910,851	26.4	3,364,654	4,005,236	19.0
March . . . .	2,379,098	3,219,926	35.3	3,890,101	4,998,925	28.5
April . . . .	2,441,295	3,078,803	26.1	3,851,015	4,584,874	19.0
May . . . .	2,373,730	2,939,765	23.8	4,010,495	5,454,315	36.0
June . . . .	2,245,542	2,717,346	21.0	4,191,352	5,786,600	38.1
Fiscal Yr. . . .	29,524,596	33,245,457	12.6	46,694,469	57,184,920	22.5

**FISCAL YEAR 1954-1955**  
**SAN FRANCISCO AIRPORT**  
**FINANCIAL RESULTS OF OPERATION**

**What We Received:**

Air Carrier Flight Operations . . . . .	\$ 444,098
Rentals . . . . .	1,079,470
Commission on Permits outside Passenger Terminal Building . . . . .	491,720
Commission on Agencies . . . . .	110,722
Other Income . . . . .	386,656
.....	\$ 2,512,666

**Total Revenue** **\$ 2,512,666**

Prior Year's Surplus . . . . .	109,733
Ad Valorem Taxes . . . . .	1,893,533

**Total Receipts** **\$ 4,515,932**

**Where Money Went:**

Salaries, Wages, including Retirement, Sickness and

Industrial Injury Compensation Benefits . . .	\$ 900,137
*Miscellaneous . . . . .	504,260
Taxes . . . . .	9,993
Reconstruction and Replacement . . . . .	9,510
Bond Interest . . . . .	198,363
Bond Redemption . . . . .	2,129,000
.....	\$ 3,751,263

**Total Expenditures** **\$ 3,751,263**

Transferred to Surplus . . . . .	764,669
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**\$ 4,515,932**

*Contractual Services . . . . .	\$ 113,321
Water, Heat, Light and Power . . . . .	319,482
Material and Supplies . . . . .	47,895
Insurance . . . . .	22,527
Other . . . . .	1,035

**\$ 504,260**



## RECEIPTS

- (A) Ad Valorem Taxes—41.9%
- (B) Air Carrier Operations—9.8%
- (C) Rentals—24%
- (D) Commission on Permits—10.9%
- (E) Commission on Agencies—2.5%
- (F) Other Income—8.5%
- (G) Surplus—2.4%



## EXPENDITURES

- (A) Bond Redemption—47.1%
- (B) Surplus—17%
- (C) Bond Interest—4.4%
- (D) Taxes—0.2%
- (E) Miscellaneous—11.2%
- (F) Salaries, Wages and Benefits—19.9%
- (G) Reconstruction and Replacement—0.2%



The Purification Division Laboratory runs more than 15,000 chemical and bacteriological tests annually to insure compliance with U. S. Public Health Service standards in providing safe, pure, good-tasting water.



New, two-way radio equipment enables Department employees to make swift checks of breaks and trouble spots among far-flung facilities. Emergency crews are dispatched to shut off water or take over necessary action before major damage results.

The Department's equipment has been licensed for the same wave length as Hetch Hetchy's Moccasin radio to permit its use as another vital link in communication between there and San Francisco.

This feature assures instant contact when roads are blocked and telephone wires down.



# Water Department



GEORGE PRACY  
General Manager

"At noon of March 3, 1930, the City and County of San Francisco formally acquired title to the operative properties and other assets of the Spring Valley Water Company and the newly created 'San Francisco Water Department' took over the operation and management of the system, which as a privately-owned utility, up to that time, had furnished practically the entire domestic water supply for San Francisco since 1858."

This was the first paragraph of the 1930-31 report of the one year old Department, which is now twenty-five years old. A comparison of the Department then and now, a quarter of a century later, is shown below.

There have been only three bond issues approved for the Water Depart-

ment the total amount of which was \$65,595,000. Of this amount there was \$24,902,201 outstanding on July 1, 1955. The first issue was authorized for the purchase of the property of Spring Valley Water Company, maturity date for the last of these bonds is 1970. The second issue was for distribution facilities and was retired in 1954.

The third was for the purpose of bringing Hetch Hetchy water to the consumers. This issue was called the Hetch Hetchy 1947 Bonds. The Water Department participated in the 1947 Bond Monies to the extent of \$12,500,000. On this amount there was \$9,902,201 outstanding on July 1, 1955. Maturity date for the last of these bonds is 1969. All interest and principal payments have been paid from Water Department revenue.

The average amounts collected per hundred cubic feet of water during the 1954-55 fiscal year were 27.37¢ in San Francisco and 17.12¢ in the Suburban area. In 1930, the averages were 33.10¢ and 17.84¢ per hundred cubic feet respectively. The 1930 Suburban average, after eliminating contract and free water for comparison with the present average, was 23.26¢ per hundred cubic feet. The decrease of 17% in San Francisco and 26% in the Suburban area reflect the lower rates for water service plus the fact we now have four steps in the rate schedule compared with only three steps in 1930.



## PHYSICAL PLANT

LAND	1930	1955
Acres . . . . .	62,611.	63,185.
IMPOUNDING RESERVOIRS		
Number . . . . .	4.	4.
Capacity in billion gallons . . . . .	62.3	61.3*
DISTRIBUTING RESERVOIRS		
Number . . . . .	8.	13.
Capacity in million gallons . . . . .	134.6	360.4
TRANSMISSION MAINS IN MILES . . . . .	111.	221.4
TUNNELS AND FLUMES IN MILES . . . . .	24.	22.
DISTRIBUTING PIPELINES IN MILES . . . . .	870.	1,086.
SERVICE CONNECTIONS . . . . .	111,000.	153,686.

\* Weir in Calaveras Spillway removed reducing the capacity by 1. billion gallons.

## CONSUMPTION

Water Deliveries at Consumers' Meters	1930-31	1954-55	% of Increase
SUBURBAN			
Total in million cubic feet . . . . .	162.9	2,059.3	1,164.1
Average in million gallons per day . . . . .	3.3	42.2	-----
SAN FRANCISCO			
Total in million cubic feet . . . . .	1,983.2	3,616.3	82.3
Average in million gallons per day . . . . .	40.6	74.1	-----

## REVENUE

	1930-31	1954-55	% of Increase
Revenue accounts—amount received . . . . .	\$6,630,389.	\$12,683,905.	91.3
Municipal—Non-paying accounts . . . . .	358,387.	739,565.	106.4
Totals . . . . .	\$6,988,776.	\$13,423,470.	92.1

## EXPENDITURES

### Totals for 25 Years

Redemption of Water Department Bonds . . . . .	\$ 40,942,799
Interest on Water Department Bonds . . . . .	37,385,577
Operating Expenses . . . . .	132,389,490
Non-operating Expenses . . . . .	1,115,637
Contributed to Hetch Hetchy . . . . .	23,613,864
Taxes—Actual . . . . .	8,565,151
Value of Plant taken over—March 3, 1930 . . . . .	\$42,902,614
Additions to Capital in Service—Net . . . . .	55,216,698
	98,119,312

## CAPITAL INVESTMENT

### Totals for 25 Years

Additions from revenue . . . . .	\$ 24,389,663
Additions from bond funds . . . . .	66,326,925
Additions from U. S. Government funds . . . . .	2,358,988
Additions from other funds . . . . .	7,558,670
Total capital investment . . . . .	\$100,634,246
Depreciated and/or written off . . . . .	\$32,577,728
Present value of plant . . . . .	\$65,541,584

This reduction has taken place during a period of rising costs. For instance, construction is approximately 3 times the 1930 cost; rates of pay to employees are between 2 and 3 times what they were then.

Employment by the Department in 1930 was 499 persons and at the end of 1954-55 fiscal year we had 472 regular employees and 65 temporary employees.

This growth in the Department's business is increasing at a very rapid rate with the result that additional facilities must be provided at the same rate. It is always a close race between increasing demand and provision of the facilities to insure an adequate supply to meet it. This requires a continuing program, carefully planned and timed to meet this ever increasing demand for more water. There is no question but what a substantial part of the future cost will have to come from revenue bond issues in order to provide the necessary water in time.

Progress on the Sunset Pipeline is on schedule. Contract for the 90-inch Hillsborough Tunnel will soon be awarded. This construction will take from one and one-half to two years to complete. The balance of the pipeline is scheduled for completion at the time the tunnel is ready for service. The San Andreas Branch of the Sunset Pipeline is under construction and should be completed about September 15, 1955. That part of the completed Sunset Pipeline has been in operation and the San Andreas branch will be put in operation upon its completion.

Balboa Reservoir site was not available for construction in 1954-55 so a change in plans was necessary. Construction of a new Corporation Yard and earthwork for the south basin of

Sunset Reservoir were moved up to 1955-56 fiscal year.

Summit Reservoir construction was completed during this year.

The insurable buildings of the Department being used in operation and maintenance were covered with blanket fire and extended coverage insurance this year for the first time since the City took over the property from Spring Valley Water Company.

During the year, the Commercial offices were remodeled and rearranged. The vault on the second floor of the Mason Street Building, which was no longer required, was removed, which added about 25% additional working space on that floor. The Collection Division, with the exception of the receiving tellers, was moved from the first to the second floor. The Water Sales general offices and the Claims Division were moved to the front of the building on the first floor and allowed the Service Division, which had become badly overcrowded, to expand. Adequate, modern, slim line lighting was installed in the ceiling of this first floor. This has been a model for other concerns who contemplate modernization of their own offices. Immediately following the lighting installation, the first and second floor interiors were painted so that the general overall appearance of the Commercial offices was greatly enhanced.

## **WATER PRODUCTION AND DELIVERIES**

### **General Operations**

Water consumption for the entire system during the year ending June 30, 1955 averaged 135.7 million gallons daily, an increase of 10.8 million gallons, or 8.6% daily over the preceding year. Of this total, 91.1 million gallons daily were used in the San Francisco consumption area, an in-

crease of 1.4 million gallons per day or 1.5% and the balance of 44.6 million gallons daily was used in the suburban consumption areas, an increase of 9.4 million gallons or 26.7% per day.

Deliveries from Hetch Hetchy were 39,966.8 million gallons.

Draft from Local Production and storage was 9,555.4 million gallons.

Total 49,522.2 million gallons.

The total delivery from Hetch Hetchy since October 18, 1934 now amounts to 358,334 million gallons or an average of 47.4 million gallons per day.

The 24 hour peak consumption for the entire system was 190.0 million gallons, occurring on July 28, 1954 and the month of June 1955 had the highest daily average consumption of any month during the year averaging 165.8 million gallons daily.

The low 24-hour demand on the system, occurring on December 11, 1954, was 92.5 million gallons as compared to the 1953-54 low of 88.0 million gallons on November 22, 1953.

The month of June 1955 had the highest daily average demand of any month during the year averaging 166.5 million gallons per day as compared to an average of 157.3 million gallons per day in June 1954.

All water delivered to San Francisco was, as heretofore, supplied entirely from San Andreas and Crystal Springs Reservoirs in San Mateo County. Those reservoirs were replenished from run-off, by water drawn from Calaveras Reservoir in Alameda and Santa Clara Counties and from the Hetch Hetchy System in the Sierra Nevada Mountains.

Practically all water deliveries outside the City of San Francisco are made to vendors who take large quan-

ties at the department's transmission mains. These vendors, individual cities, public utility companies, water districts or private individuals own and operate their own distribution systems.

This department delivers water to practically all cities and towns in San Mateo County; to Palo Alto, Woodside, Mountain View, Sunnyvale, Los Altos and unincorporated areas in Santa Clara County on the west side of the Bay; and to the City of Hayward and other deliveries on the east side of the Bay from Hayward south as far as Milpitas.

### **Rainfall, Catchment and Storage**

Rainfall at Calaveras Reservoir was 17.18" which is 72% of normal and is .09" higher than last year's sub-normal precipitation. On July 1, 1954 the storage in Calaveras Reservoir was 21,644 million gallons and on June 30, 1955 the storage was 21,433 showing a net loss of 231 million gallons for the year. During the fiscal year 5,974 million gallons were withdrawn for consumption, 96 million gallons spilled into the Creek and 231 million withdrawn from storage, making a usable productivity of 5,839 million gallons, equal to 15.7 million gallons per day.

Rainfall over the Peninsula watersheds averaged approximately 64 per cent of normal as indicated by the readings at the five rain gauging stations on the watershed. The San Andreas station showed 22.06" which was 59.4 per cent of normal; the Pilarcitos station 28.40" which was 63.0 per cent of normal; the lower Crystal Springs station 17.66" which was 64.3 per cent of normal; the Upper Crystal Springs station 19.64" which was 61.6 per cent of normal; and the Crystal Springs Cottage station 20.07" equal to 74.4 per cent of normal.

Total local storage including City, Peninsula and Calaveras was 48,293 million gallons on July 1, 1954, receded to a low of 40,890 million gallons on December 1, 1954, increased to a maximum of 47,672 million on May 23, 1955 and dropped to 47,134 million gallons on June 30, 1955, a net loss for the year of 1,159 million gallons.

### Transmission

The water demand in the San Francisco consumption area required a daily average delivery of 91.1 million gallons from the Peninsula Reservoirs. Of this amount, an average of 38.9 million gallons daily was delivered through the 60-inch and 44-inch Crystal Springs Pipelines; 31.2 million gallons daily through the San Andreas 54-inch and Sunset 60-inch pipes and, in addition, the Sunset 60-inch line carried an average of 7 million gallons a day from Crystal Springs pipeline to

Sunset Reservoir through the Lake Merced Pumps; 5.8 million gallons a day through the College Hill Pipe Line and 8.2 million gallons daily through the Baden-Merced 30-inch Branch Pipe Line.

The additional suburban consumption, averaging 44.6 million gallons daily was supplied directly from the several transmission and supply lines at various points in Alameda, Santa Clara and San Mateo Counties.

The three Bay Division Pipe Lines carried an average of 121.4 million gallons daily to the westerly side of San Francisco Bay. Of this amount, an average of 100.0 million gallons daily was delivered into Crystal Springs Reservoir and the remaining 21.3 million gallons per day was delivered to consumers from the aqueduct and the Palo Alto Pipe Line. Of the total amount of 121.4 million gallons per day, Hetch Hetchy supplied 105.0 mil-

Another step to insure delivery of an adequate supply of potable water to San Francisco was taken when the northerly connection of some 5,000 feet of Crystal Springs 60-inch pipeline was relaid on solid ground around Guadalupe Marsh replacing that section crossing the marsh on trestle. Welders work under hot, cramped conditions on the inside of the huge pipe.



Continuous checking of water meters is undertaken by the Water Department to keep mechanical parts in tip top condition. Approximately 155,000 meters are presently in service and over 7,000 were processed by the Meter Shop during the past year.



lion gallons daily and the Alameda sources, 16.4 million gallons daily.

#### **Transmission Lines**

After 85 years of continuous operation, the College Hill Branch of the San Andreas Pipe Line was removed from service June 1, 1955 because its condition made economical operation no longer possible. This 30-inch wrought iron pipe was a part of the original line bringing water from San Andreas Reservoir in San Mateo County to College Hill Reservoir in San Francisco.

Six hundred feet of the Crystal

Springs-San Andreas canal housing was burned when a grass fire was started nearby. The cost of repairs, fire fighting and clean up was over \$6,000.

#### **Equipment**

Four cars and two offices are now equipped with radios for inter-communication service, which has already proven very valuable.

The following additional equipment was purchased for use in operation: (1) Machine for tapping transmission mains up to 12" under pressure, for metering connections; (2) Tilt bed trailer for transporting equipment to

various stations along public highways; (3) Power saw for use in the carpenter shop; (4) Sanstrom blasting machine for cleaning pipe; (5) 1½" Centrifugal self-priming pump.

A pickup truck was purchased to replace a station wagon.

State Safety Inspectors checked equipment and all electric services at Headquarters, which, though very old, have caused no trouble but recommended changes to bring them up to conformity with the State Safety Code.

#### **Suburban Meters**

There were 57 new services installed during the year for suburban consumers. The total number of suburban meters at the close of the year was 1,071 of which 1,060 serviced 738 active consumers; a decrease of 5 active consumers for the year.

#### **CITY DISTRIBUTION Water Consumption**

The average daily demand for the fiscal year for the City and County of San Francisco consumption area was 91,079,523 gallons, an increase of 1,366,548 gallons, or about 1.5 per cent over the previous year. There was an increase in consumption in all of the residential districts, except Stanford Heights and College Hill, amounting to 3,921,109 gallons. Forest Hill increased 4.7 per cent, Sunset 5.2 per cent, Merced Manor 15.0 per cent. Stanford Heights and College Hill Districts showed a decrease in average daily consumption amounting to about 13.2 and 10.5 per cent respectively. The industrial district, i.e. University Mound, showed an increase of 197,627 gallons, or 6.4 per cent. The new Sutro Reservoir was placed in service which supplies some of the area formerly supplied from Stanford Heights and Sunset.

The maximum daily demand of

113,394,000 gallons for the City consumption area during the year occurred on May 18, 1955 while the day of minimum consumption occurred on November 14, 1954 and amounted to 69,336,000 gallons.

#### **Operating Conditions**

Due to the fact that San Francisco again experienced a rather cool year, there having been no hot weather for any length of time, there were no "no water" complaints due to the inadequacy of the system.

During the early part of 1955 the new Sutro distribution reservoir at elevation of about 500 feet, was gradually placed into service. So far only the Sunset residential district, which was formerly supplied from the Stanford Heights and Sunset Reservoirs, has been transferred. In general, it is attempted to give higher pressure to those houses having less than 40 pounds per square inch (Sunset Reservoir), and lower pressure to those houses having over 90 pounds per square inch (Stanford Heights Reservoir).

#### **Feeder Mains**

From past experience, a hot spell of several days' duration would create a serious situation throughout the City. This condition can only be overcome by the laying of additional feeder mains in the various distribution districts, as well as the rearrangement of the existing feeder mains. Additional supply mains should also be given consideration. Funds were made available in the budget for the laying of some of the feeder mains.

#### **City Reservoirs**

A new 314 million gallon reservoir has been added to the distribution system inside the City and County of San Francisco, known as Sutro. It is lo-



cated on Clarendon Avenue just east of Lake Honda and is at an elevation of about 500 feet. Its area of supply will be between that of Stanford Heights and Sunset.

### **Pumping Stations**

As in the previous fiscal year all pumping stations operated without any serious mishaps. Several of the smaller automatic stations experienced electrical troubles, the fuses in the principal incoming control switch burning out. These difficulties are due to a continuous overload in the station, but fortunately the trouble was discovered in time, thus avoiding any water shortage.

The new pumps for the Forest Hill District have not been installed. It is hoped to avoid this expense with the completion of the Summit Reservoir project.

The new 50 million gallon per day capacity Lake Merced Pump Station has been placed in service on a partial basis. It is now being operated on a two-shift basis pumping to Sunset Reservoir only. As the Sutro Reservoir district is developed it will relieve the pumping load to Stanford Heights Reservoir to the extent that the electric pumps at Central Pump Station will be able to furnish sufficient water for the remaining Stanford Heights area. The crews at the Central Pump Station will be transferred to the Lake Merced Pump Station. All additional water required in the Sunset District, as well as in the Sutro District, will then be pumped by the Lake Merced Pumps.

### **WATER SALES DIVISION**

A Quarter of a Century is a long time, but looking back twenty-five years to the Third Day of March 1930, when your Water Department commenced operations, seems almost like

yesterday. Many changes have taken place during this time, notably the rate reduction of December 1, 1934, which rate is substantially in effect today. Bi-monthly billing, which commenced in 1949, reduced the number of water bills the majority of our customers receive each year from twelve to six and produced a substantial saving for the department.

Revenue from sale of water has almost doubled in the past twenty-five years from \$7,045,094 in 1930 to \$13,423,470 in 1955. Sales of San Francisco water to areas in the adjacent counties of San Mateo, Santa Clara and Alameda amounted to \$3,524,985 which was more than 25 per cent of water revenue. In 1930, sales outside the City and County were only \$334,278 or less than 5 per cent of the total. This points up the tremendous growth of the Suburban area and its dependency upon the vast resources of San Francisco's water supply.

Sales, no matter how large, mean nothing unless the bills which are issued are paid with promptness by the customers. Your Water Department's customers are to be congratulated for, of the almost one million bills issued during the year, only slightly more than four per cent carried an unpaid balance from the prior billing period. A few customers, as with any business concern, are slow to pay and diligent effort is expended in an attempt to keep them paid up. Actual turn offs are held to a minimum as such action benefits no one, least of all your Department. We hope that continued co-operation between customer and Department will continue to reduce the unpaid balances.

The average charge for water service during the 1954-55 fiscal year was 23.7 cents per hundred cubic feet. In



1930, the average was 32.5 cents. For residential accounts, the current average is 33.2 cents per hundred cubic feet compared with 38.7 cents in 1930. These accounts do not get into the higher usage brackets and they therefore retain a higher average rate but, nevertheless, they are the backbone of the Department's sales being almost 50 per cent of all water sold in San Francisco.

Although it may not generally be realized the Department, being a business enterprise is, after all, subject to claims for damage from its operations. When thorough investigation shows such claims to be reasonable and just the Department will pay for such damage. However, in the last analysis, this is your money and the Department is just as diligent in refusing to pay extravagant or unsubstantiated claims. During 1954-55 some 107 claims originally filed for \$134,844 were disposed of for \$12,989, a saving of \$121,855.

Likewise, the Department endeavors to recover when its facilities have been damaged through carelessness. Some 204 claims totaling \$13,165 were processed by the Department against others, mostly street work contractors who, in the course of their work, tore out water pipe lines in the street. Recovery by the Department amounted to \$7,969.

It is interesting and amazing to note that, through economies and time saving methods, the average cost of operating the Water Sales Division is less now than it was twenty-five years ago. At that time the Division's operating cost was \$5.30 per hundred dollars of sales. Today, the figure is only \$4.97 per hundred dollars of sales. Likewise, operating personnel of the Division, instead of increasing, has been reduced by twelve in the past twenty-five years.

## WATER PURIFICATION DIVISION

In general 1954-55 was a normal year in that sanitary protection of watersheds and reservoirs was in force at all times; and waters were continuously disinfected prior to delivery to consumers. The water they received fully complied with United States Public Health Service standards for drinking and culinary water.

The major part of the water supply originates in the mountains and is a soft surface water which is treated for corrosion control. A minor portion is from wells and filter galleries and is relatively hard. The other source, from local watersheds, is intermediate in both quantity and hardness. The mixture delivered to practically all consumers is moderately soft and of relatively low mineral content.

### Laboratory

All analytical work in the fields of biology, bacteriology and chemistry, except the necessary field tests, was performed in the laboratory, located at Millbrae, which has been certified by the State Department of Public Health as an "Approved Water Laboratory for Complete Chemical and Complete Bacteriological Analyses."

A number of radioactivity level tests were run on water samples from source reservoirs, and the results were compared with those obtained by the State. Activity was found to be at a low level. New and improved methods and techniques were developed. In this connection, the laboratory built a battery of special concentrating devices which are not obtainable commercially.

Two members of the laboratory staff attended a special fluoride school conducted jointly by the United States Public Health Service and the State

Department of Public Health. The purpose was to develop uniform and accurate methods of fluoride analyses.

### ENGINEERING DIVISION

The work of the Engineering Division during the past year was primarily concerned with the preparation of plans, specifications, engineering studies, reports, estimates of cost, inspection of construction and, in some cases, the supervision of maintenance work. Various other services of a continuing nature were performed during the year including the preparation of property descriptions, revocable permits and the stating of conditions for land transactions; the maintenance of maps and records and the furnishing of photostatic and photographic service to all city owned utilities.

Plans and specifications were prepared for 33 formal and 13 informal Water Department contracts for a total estimated construction cost of \$1,300,000. Engineering supervision and inspection services were provided for \$1,250,000 worth of contract work actually completed during the year. Of the 33 formal contracts for which plans and specifications were prepared during the fiscal year 1954-55, 20 were for water main extensions.

Two of these extensions were awarded to the Water Department in an amount totaling \$21,421.00. One was completed during the year at a cost of \$2,889.51 or \$1,673.09 less than the bid price. The other extension was 98% complete on June 30.

A survey of proposed capital improvements to the water system was made, in connection with budgetary and city planning purposes, for the period beginning July 1, 1956 and ending June 30, 1962. Water Department requirements for this period were esti-

mated at some \$38,500 worth of improvements having varying degrees of urgency. A number of the more essential projects programmed to start in that time and for which funds are needed in whole or in part include the following projects:

PROJECT	Total Estimated Cost July 1, 1956 to June 30, 1962
Balboa Reservoir—One Basin .	\$ 2,800,000.00
Corporation Yard . . . . .	1,800,000.00
Portions of Crystal Springs Pine Line No. 3 . . . . .	6,880,000.00
Crystal Springs Aqueduct . .	1,500,000.00
San Andreas Pumps . . . . .	350,000.00
Sunset Reservoir—So. Basin .	3,650,000.00
Bay Division Pipeline No. 4 .	15,000,000.00
San Antonio Dam and Appurtenances . . . . .	5,000,000.00

Fluoride plants at Crystal Springs and San Andreas Reservoirs are nearing completion at the end of this fiscal year. They should be in operation about July 15, 1955. These plants, together with the original plant at San Andreas, will provide capacity to treat all water drawn from those reservoirs.

Several improvements were made at the Department's Main Office at 425 Mason Street. The lighting, painting, rearrangement of partitions and replacement of some of the large windows and blocking in of the others, has made the lobby and work areas on the first floor a place to be proud of. Customers and employees alike have reacted very favorably to this improvement.

### Electrolysis

At the beginning of the previous fiscal year the electrolysis survey of the pipe lines in the City Distribution Division, as well as the Peninsula Division, was placed under the supervision of the Superintendent of the City Distribution Division.

A class in General Bacteriology from S. F. State College secures first-hand information on the operation of the Department's newest fluoridation plants located at Crystal Springs Reservoir. The plant is completely automatic varying the quantity of fluoride fed into the pipeline to correspond to the flow of water so that the resulting fluoride never exceeds 1 part per million parts of water.



The surveys made during this fiscal year resulted in the following.

1. In the area east of the Pulgas Tunnel there are three pipe lines—60-inch, 66-inch and 72-inch respectively. The 60-inch and 66-inch pipe lines are riveted and welded steel, while the 72-inch is steel cylinder cement-lined and coated, with rubber ring bell and spigot joints, except in a few instances, where a welded joint was used. The 60-inch pipe line is badly pitted on the outside surface due to soil electrolysis. To overcome this condition a counter current must

be created or the pipe line must be completely insulated. Before an effective cathodic station can be installed it will be necessary to bond across all of the bell joints on the 72-inch pipe line in that area.

2. Special bonding of the various structures belonging to utilities other than the Water Department in the Newark area was done in order to establish the required electrical protection. This unbalancing of the electric field was due to the cathodic station installed in that area by the Water Department some time ago.

### AGRICULTURAL DIVISION

On July 1, 1955 the area owned in fee was 63,184.796 acres which was 137.104 acres less than shown in the annual report of June 30, 1954. This decrease is as follows:

	Acres	Acres
<b>PURCHASES</b>		
Land for Bay Division Pipe Line No. 3 . . . . .		14.788
<b>SALES</b>		
Parcel No. 9, Daly City . . . . .	.234	
San Mateo County Lands . . . . .	130.917	
Bay Division Pipe Line . . . . .	.377	
Parcel No. 37 . . . . .	2.26	
38 . . . . .	.704	
San Mateo County Lands . . . . .	17.4	
	151.892	14.788
<b>NET DECREASE IN ACRES</b> . . . . .		137.104

### LEASED ACREAGE—KIND OF LEASES

	Acres	No. of Leases	Income
<b>AGRICULTURAL</b>			
Cattle and Dairy . . . . .	24,265	11	\$ 99,550.22
Share Crop . . . . .	2,142	9	11,798.86
Flat Rate . . . . .	8,725	45	31,106.77
Specialty . . . . .	240	3	16,835.00
<b>NON-AGRICULTURAL</b>			
Flat Rate . . . . .	183	67	16,755.08
<b>ROYALTIES</b>			
Crystal Springs Golf Course . . . . .	173	1	13,604.62
Skyline Materials Rock Quarry . . . . .	30	1	30,540.87
Lowrie Rock Quarry . . . . .	19	1	38,500.55
E. A. Forde Rock Quarry . . . . .	50	1	1,749.94
San Antonio Gravel Co. . . . .			5,250.06
Taxes Paid by Tenants . . . . .			4,375.65
	35,827	139	\$270,067.62
<b>WALNUT ORCHARD</b>			
Sale of Walnuts . . . . .	90	....	50,004.74
Sale of Walnuts (new orchard) . . . . .	40	....	.....
	39,957	139	\$320,072.36

# **SAN FRANCISCO WATER DEPARTMENT** **TYPICAL ANALYSES OF WATERS SERVED TO CONSUMERS**

(Results expressed in parts per million, except pH and conductivity.  
 Conductivity expressed in reciprocal ohms x 10<sup>5</sup>)

Source	Lines Crystal Springs	San Andreas Lines	Bay Crossing Lines*	Stone Dam Reservoir
Conductivity (K x 10 <sup>5</sup> ) . . . . .	10.4	13.2	10.7	28.6
pH . . . . .	7.7	7.7	8.3	7.9
Total Solids (Calculated) . . . . .	58	72	66	166
Silica (SiO <sub>2</sub> ) (Colorimetric) . . . . .	4.6	5.4	6.1	13.4
Sodium (Na) . . . . .	6.1	7.7	6.7	17.2
Calcium (Ca) . . . . .	11.4	13.1	12.5	30.6
Magnesium (Mg) . . . . .	2.8	4.2	3.1	8.7
Iron, Dissolved (Fe) . . . . .	0.02	0.02	0	0.08
Aluminum (Al) . . . . .	0	0	0.02	0
Manganese (Mn) . . . . .	0	0	0	0
Boron (B) . . . . .	0.06	0.08	0.11	0.14
Fluoride (F) . . . . .	0.05	0.95	0.15	0.10
Carbonate (CO <sub>3</sub> ) . . . . .	0	0	1.2	0
Bicarbonate (HCO <sub>3</sub> ) . . . . .	47	54	46	120
Sulphate (SO <sub>4</sub> ) . . . . .	7.3	8.0	7.9	14.6
Chloride (Cl) . . . . .	4	8	4	23
Nitrate (NO <sub>3</sub> ) . . . . .	0.01	0.01	0.01	0.01
Hardness, Calculated (CaCO <sub>3</sub> ) . . . . .	40	50	44	112
Alkalinity (CaCO <sub>3</sub> ) . . . . .	38	44	38	98

Column 1 Supplies downtown, commercial, waterfront areas of the City and Peninsula communities as far south as San Carlos.

Column 2 Supplies residential areas of the City.

Column 3 Supplies Peninsula communities south of San Carlos and some communities in Alameda County. (\*Average analyses of water served; water may range from Hetch Hetchy only to Calaveras only.)

Column 4 Supplies Coast County Water District.

## **SUMMARY OF 1954-1955 LABORATORY AND FIELD EXAMINATIONS AND TESTS**

Bacteriological Examinations . . . . .	6,936	Analyses to Determine Origin of Leaks . . . . .	368
Routine Microscopical Examinations of Algae . . . . .	401	Complaint Investigations . . . . .	41
Electrical Conductivity Measurements . . . . .	5,149	Irrigation Water Analyses . . . . .	48
Turbidity Measurements . . . . .	3,689	Complete Mineral Analyses . . . . .	9
Partial Chemical Analyses . . . . .	817	Chlorine Residual Tests . . . . .	5,044
Routine Fluoride Tests . . . . .	899	Miscellaneous Field Tests . . . . .	2,496
Color Measurements . . . . .	832	Miscellaneous Laboratory Tests Not Otherwise Included . . . . .	500
Dissolved Oxygen Tests . . . . .	639		

**FISCAL YEAR 1954-1955**  
**SAN FRANCISCO WATER DEPARTMENT**  
**FINANCIAL RESULTS OF OPERATION**

**What We Received:**

Revenue from the Sale of Water . . . . .	\$12,788,363
Revenue from the Sale of Walnuts . . . . .	39,683
Rents and Commissions . . . . .	263,893
Miscellaneous Revenue . . . . .	20,568
Prior Year's Surplus . . . . .	1,061,495
<b>Total Receipts . . . . .</b>	<b>\$14,174,002</b>

**Where Money Went:**

Salaries, Wages, including Retirement, Sickness and	
Industrial Injury Compensation Benefits . . . . .	\$ 2,614,406
*Miscellaneous . . . . .	4,902,545
Taxes . . . . .	636,216
Bond Interest . . . . .	880,518
Bond Redemption . . . . .	1,973,879
Additions and Betterments . . . . .	2,820,649
Reconstruction and Replacement . . . . .	59,280
<b>Total Expenditures . . . . .</b>	<b>\$13,887,493</b>
Transferred to Surplus . . . . .	286,509
	<b>\$14,174,002</b>
*Material and Supplies . . . . .	\$ 268,773
Contractual Services . . . . .	548,469
Standby Charge and Purchase of Water . . . . .	4,030,000
Other Expenses . . . . .	55,303
	<b>\$4,902,545</b>



## RECEIPTS

- (A) Revenue From Sale of Water—90.2%
- (B) Sale of Walnuts—0.3%
- (C) Rents and Commissions—1.9%
- (D) Miscellaneous—0.1%
- (E) Surplus—7.5%



## EXPENDITURES

- (A) Salaries, Wages, Benefits—18.4%
- (B) Taxes—4.5%
- (C) Bond Interest—6.2%
- (D) Bond Redemption—13.9%
- (E) Additions, Betterments—20%
- (F) Reconstruction Replacement—0.4%
- (G) Surplus—2%
- (H) Miscellaneous—34.6%



A constant survey for analysis of energy cost is carried out by the Department to include intersection traffic controllers.



Here, in close-up, is shown a modern-type street lighting luminaire. The hood, group replacement lamps, reflector and globe produce  $2\frac{1}{2}$  times more light on street areas than the obsolete upright type still familiar to many San Franciscans.



# Bureau of Heat, Light and Power



B. A. DEVINE  
General Manager

## FUNCTION

The functions of the Bureau include, in addition to the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City. The Bureau therefore controls the yearly disbursement of approximately three million dollars of City funds.

These operations are under the management of B. A. Devine, assisted by G. W. Dolen, in charge of street lighting operations and maintenance; W. C. Eggert, in charge of street lighting design and construction; and E. W. Balzer, in charge of gas and electric supply. Much of the credit for the efficient operation of the Bureau must go to these men.

The Bureau consists of engineers, draftsmen, accountants, clerks and stenographers, a total of 17 employees at the end of this fiscal year.

## Street Lighting Operation

During the year, 358 new street light were installed in the various districts throughout the City.

At the close of the year, 27,979 lights were in service, 1,864 being jointly-owned with the Pacific Gas and Electric Company, 18,455 owned by the Pacific Gas and Electric Company, and 7,660 owned by the City.

City-owned lights have increased from 934 in 1932-33 to 7,660 in 1954-55, an increase of 6,726. From our construction funds for new lights, plus new private tract developments, funds from gas tax for traffic safety lights,

and underground developments, we will be able to increase the number of city-owned lights and eliminate fixed charges on replaced Company-owned lights.

There was a total expenditure of \$969,641.94 for street lighting operations during the year. This total includes operation and maintenance cost for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The decrease over last year's expenditure of \$983,572.70 was due to the amount paid from gas tax funds for State Highway routes, which was not shown in the 1953-54 report. Also included was the elimination of over one hundred 10,000-lumen lights, adjacent to the new Bay Shore Freeway.

Special attention is called to the downward trend in the average cost per lamp per year. This decrease was due to the increase in the number of city-owned lights.

The number of requests received by this Bureau for improved streetlighting decreased from 114 in 1953-54 to 47 at the end of June, 1955. This decrease was due to fewer streets being improved and to the scarcity of land for tract development in various sections of the City.

Requests for the installation of shades on the house-side of street lights were discouraged, because this tends to reduce street illumination by eliminating light reflected from buildings upon the sidewalk and street area.

With the cooperation of the Police Department, interested citizens, the Pacific Gas and Electric Company, and also field inspection by this Bureau, the number of lights reported out of service totaled 9,785, representing a saving of \$959.97 in outage credits. The number of outages increased from 8,552 in 1953-54 to 9,785 at the end of June, 1955.

All records of installations and revisions made during the period were entered on our record cards and maps by the end of July, 1955.

Collections made for damages to city-owned street light standards during the 1954-55 fiscal year, amounted to \$12,062.12, of which this Bureau collected \$9,227.93, an increase of \$4,285.58 over the year 1953-54.

Energy cost of \$441,610.44 was paid to Hetch Hetchy, and \$526,955.91 was paid to the Pacific Gas and Electric Company for maintenance and fixed charges.

## Engineering and Construction

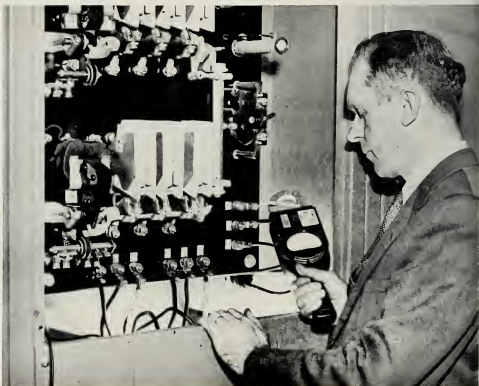
The following are the major streets on which street lighting jobs were completed in the fiscal year 1954-55:

Oak Street, from Market Street to Stanyan Street  
Freeway soffit lighting between 4th and 8th Sts.  
Lake Merced Blvd. at Font Blvd. and Winston Dr.  
The Sunset Community Center District  
South Van Ness Avenue, 13th St. to Mission St.  
Geary Street, from 33rd Ave. to 43rd Ave.  
San Jose Ave. at Sagamore St. and Sickles Ave.  
Masonic Avenue, Euclid Ave. to Presidio Ave.  
Folsom Street, 10th St. to 16th St.  
Twin Peaks Blvd., Clayton St. to Burnett Ave.

Total expenditure for new street lighting construction during the year amounted to \$164,413. This brought the value of city-owned street lighting systems to \$3,703,861, with a total of 7,660 lights. Of the total expended on street lighting in 1954-55, 12% was contributed by new tract builders and by the State of California in conjunction with the Freeway program.

The Bureau continued during the

Acceptance testing of newly installed electrical contactors in the Water Department building is carried out by an employee of the Light, Heat and Power Department.





The Department of Light, Heat and Power works in close conjunction with the Department of Electricity in the maintenance and service of all traffic signal units in the city. Each button on the master board represents one of the 5,486 signals throughout San Francisco.

year one of its important functions of engineering, consultant and inspection service to other city departments which are not staffed to do this type of work. This included the design for flood-lighting the Margaret Hayward Playground; special lighting at the de Young Museum; power-factor studies and surveys of electrical installations for the San Francisco Unified School District; design and supervision of installation of an electronic sound secu-

rity system at the Youth Guidance Center; and the design of the electrical layout for automatic control of treatment plants which are used for the fluoridation of the San Francisco water supply.

#### **Gas and Electric Supply**

During the fiscal year, 11,957,397 C/cubic feet of natural gas, 172,325,287 kilowatt hours of electricity, and 1,873,100 pounds of steam were used for municipal purposes, exclusive of electric energy used for street lighting.



The Measuring Wheel is a handy gadget, used for tracking lengths of cables, conduits, underground pipes and distances between electroliers.

The advantage of this device is apparent when you realize that one man can easily make an accurate survey or inspection in lieu of two men using tape and computer.

One of the important functions of the Bureau is that of rate advisory work, which deals with the interpretation and application of the various gas and electric rate schedules. This Bureau provides services which embrace supervision of metering, meter installations, meter readings, and billing of the city-owned electrical distribution system at the San Francisco International Airport.

A constant physical survey of plant operation and costs for various city departments is maintained to ensure that proper rate schedules are being applied. This often discloses reasons for changes to plant or plant operation that will result in a lower cost for gas or electricity. If it is found that a change in rates for any department will result in lower costs, this Bureau so recommends and will render the necessary engineering assistance.

At the San Francisco International Airport, the city-owned distribution system supplied 25,729,389 kilowatt hours through 65 meters and 25 flat-connected accounts to 53 tenants at the rates on file with the City and County of San Francisco Public Utilities Commission. 3,557,500 pounds of steam were provided through two (2) meters to one tenant. A total of \$306,952 was collected and credited to the Airport account at a profit of \$60,980.

The traffic signals under the jurisdiction of the Department of Public Works require constant supervision by this Bureau to determine the proper monthly billing on a flat basis per unit of time per type of signal. In June, 1955, there were 3,820 of the 3-light type, 306 of the Wiley-type, and 582 neon walk-wait signals, as well as 96 other miscellaneous types.

## New City-Owned Street Lighting Construction Completed During 1954-55

Location	No. of Lights	Financed by	Value
Lake Merced Blvd. at Font and Winston Dr. . . . .	11 Fluor.	DPW	\$ 10,118
Freeway Soffit Lighting, 8th to 4th Sts. . . . .	20	State	4,822
Bay Shore Freeway, Thornton and Burrows Underpasses . . . . .	15	State	1,059
Bay Shore Freeway, Paul and Bacon Underpasses . . . . .	7	State	1,105
Bay Shore Freeway, Paul and Bacon Underpasses, Conduit and Cable		BLH&P	1,385
Mason Street at O'Farrell St. . . . .	2	BLH&P	1,387
Panorama Drive at Longview Ct. . . . .	1	Property Owners	748
Sunset Community Center . . . . .	46	BLH&P	28,560
Potrero Housing Annex, Watchman and Turner Sts. . . . .	5	Housing Auth.	543
San Jose Avenue, Sickles and Sagamore . . . . .	10	DPW	3,335
Geary St., 33rd to 43rd Avenue . . . . .	42	DPW	12,612
South Van Ness Ave., 13th St. to Mission St. . . . .	27	State	9,592
Oak St., Divisadero St. to Stanyan St. . . . .	63	BLH&P	33,190
Oak St., Market St. to Divisadero St. . . . .	70	BLH&P	31,853
Masonic Avenue, Euclid to Presidio . . . . .	6	DPW	3,267
Folsom St., 10th to 16th St. . . . .	30	BLH&P	8,615
Portola Drive at Santa Ana Avenue . . . . .	2	DPW	1,485
Twin Peaks Blvd., Clayton to Clarendon . . . . .	9	BLH&P	5,465
Twin Peaks Blvd., Clarendon to Burnett . . . . .	5	DPW and BLH&P	2,712
Ocean Ave., Junipero Serra Blvd. to 19th Ave. . . . .	10	BLH&P	2,560
<b>Total . . . . .</b>			<b>\$164,413</b>

## Review of Street Lighting Cost 1935 - 1955

Fiscal Year	No. Lights at Close of Year	Expenditures \$	% of Taxes	Lamp per Year Avg. Cost Per \$
1935-36 . . . . .	20,060	677,128.37	2.24	33.76
1936-37 . . . . .	20,576	674,869.86	2.15	32.80
1937-38 . . . . .	21,378	711,737.60	2.21	33.29
1938-39 . . . . .	22,028	728,786.00	2.18	33.08
1939-40 . . . . .	23,376	728,167.60	2.18	31.15
1940-41 . . . . .	24,504	780,130.33	2.29	31.84
1941-42 . . . . .	24,604	801,189.98	2.03	32.56
1942-43 . . . . .	23,873	761,471.28	2.05	31.90
1943-44 . . . . .	24,153	771,384.97	1.99	31.94
1944-45 . . . . .	24,889	821,092.24	2.02	32.99
1945-46 . . . . .	25,040	833,525.06	2.38	33.29
1946-47 . . . . .	25,313	838,758.65	1.79	33.14
1947-48 . . . . .	25,777	835,229.27	1.50	32.40
1948-49 . . . . .	26,163	859,189.27	1.45	32.84
1949-50 . . . . .	26,420	853,744.94	1.36	32.31
1950-51 . . . . .	27,031	865,509.42	1.26	32.02
1951-52 . . . . .	27,350	882,950.55	1.26	32.28
1952-53 . . . . .	27,687	948,449.43	1.33	34.26
1953-54 . . . . .	27,621	983,572.70	1.31	35.61
1954-55 . . . . .	27,979	969,641.94	1.15	34.65

**FISCAL YEAR 1954-1955**  
**BUREAU OF LIGHT, HEAT AND POWER**  
**FINANCIAL RESULTS OF OPERATION**

**What We Received:**

By Transfer from Other Current Funds for Electricity and Gas—Interdepartmental . . . . .	\$ 2,351,131
Special Road Improvement Fund . . . . .	26,000
Ad Valorem Taxes . . . . .	1,246,037
<b>Total Receipts . . . . .</b>	<b>\$ 3,623,168</b>

**Where Money Went:**

Salaries and Wages including Retirement, Sickness and Industrial Injury Compensation Benefits . . . . .	\$ 101,299
*Miscellaneous . . . . .	19,061
**Electricity and gas for Street and Public Building Lighting and Other City Departments . . . . .	3,358,409
Additions and Betterments . . . . .	144,399
<b>Total Expenditures . . . . .</b>	<b>\$ 3,623,168</b>
*Contractual Services . . . . .	\$ 4,071
Maintenance and Repair of Structures . . . . .	13,138
Material and Supplies . . . . .	1,634
Insurance . . . . .	218
	<b>\$ 19,061</b>
**Electricity and Gas—Interdepartmental . . . . .	\$ 2,351,131
Public Building Lighting . . . . .	38,712
Lighting of Public Streets . . . . .	968,566
	<b>\$ 3,358,409</b>



## RECEIPTS

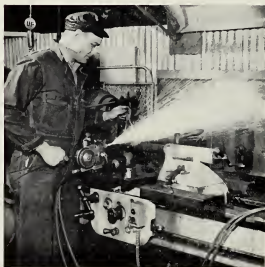
- (A) By Transfer From  
Other Funds—64.9%
- (B) Road Improvement  
Fund—0.7%
- (C) Ad Valorem Taxes  
—34.4%



## EXPENDITURES

- (A) Electricity and Gas—92.7%
- (B) Salaries, Wages  
and Benefits—2.8%
- (C) Miscellaneous—0.5%
- (D) Additions and  
Betterments—4.0%





Ever wonder why the bus you want never seems to come along? Here's one reason, the "peak hour traffic load." Private automobiles, commercial vehicles, buses, streetcars move practically bumper to bumper. Over 20,000 homeward bound passengers are carried on Municipal Railway vehicles on Market Street from 4:00 to 6:00 p.m. daily.

Major automotive machine work is performed at 24th and Utah Streets' Garage. In this operation, metallizing worn parts are brought to size with melted metal sprayed on the surface and forming a solid, machinable coating.



# Municipal Railway

## General Observations

The fiscal year ended June 30, 1955, marked the completion of forty-two and one-half years of continuous operation of the Municipal Railway, the last ten and three-quarter years being consolidated operation with the acquired properties purchased from the Market Street Railway Company on September 29, 1944. This period also includes almost three and one-half years of operation of the acquired California Street Cable Railroad Company since January 13, 1952.

The San Francisco Public Utilities Commission, as the civic body charged with the responsibilities for the maintenance, operation, and rehabilitation of the Municipal Railway, together with the operating management of the Railway, have sought to provide the more than 675,000 daily riders of the Railway with adequate modern transit service at the lowest possible charge for the service.

## Improved and Rehabilitated Transit System

As of June 30, 1955, after the sweeping transit changes made under the various conversions, and with funds provided from the \$20,000,000 bond issue and supplemented by the amount of \$723,000 received from the sale of surplus land and buildings, which funds are now all expended except for minor balances, the present "New Municipal Railway" system presents a vastly changed and improved type of transit system, and acknowledged to be one of the most modern surface transit systems in the nation.

The extensive conversions made



CHARLES D. MILLER  
Manager Municipal Railway

from the more expensive rail operation to less costly rubber-tired operation have resulted in greatly minimizing the losses experienced from what they would otherwise have been.

Today the Municipal Railway is operating with far more modern equipment and maintaining car and coach miles of service at a level only slightly less than in the years before this conversion, even though it has been confronted with a progressive decline in riders. In the fiscal year 1954-1955, the Railway carried 203,887,807 passengers compared to 326,007,393 in 1945-1946, a decrease of 122,119,586 passengers or 37.5 per cent. To carry the 203,887,807 passengers in 1954-1955, the Railway operated 28,401,209 car and coach miles; while to carry the 326,007,393 passengers in 1945-1946, it operated 29,454,947 miles of car and coach service, or only 3.7 per cent more miles than in 1954-1955.

## Financial Results of Operations

The financial results of operations for the fiscal year ended June 30, 1955, after provision for accidents, depreciation, bond interest, retirement, and removal charges, showed a net loss in the amount of \$1,172,562.13 as compared with a net loss of \$925,515.09 in the previous year.

This represents an increase in the net loss from operations over 1953-1954 of \$247,047.04.

There has been a decline in revenue passengers carried of 3.74% over last year. This decline is much less than

that experienced by other transit lines of the United States. For the six months period ended June 30, 1955, compared with the same period ended June 30, 1954, for cities with a population of over 500,000 but less than 1,000,000 the decline of total passengers carried amounted to 6.15%.

This decrease in passenger revenue has resulted in a loss in revenue to the Municipal Railway in the fiscal year 1954-1955, of \$1,078,401, which is the major item accounting for this year's net loss.

A principal factor which has increased the cost of operation in this year is the increase in platform wages from \$1.894 per hour to \$1.939 per hour, effective July 1, 1954, an increase of 4.5 cents, or 2.376%. This increase in platform wage cost alone amounts to \$200,727. Increases in shop, track and monthly employees' wages have also increased costs.

A major factor which has reduced cost of operation is the operation during a portion of this year to June 30, 1955, of one-man streetcars on the "K-L" Ingleside-Taraval line and partial one-man operation on the "N" Judah line. During this time one-man cars operated 1,156,982 miles and 114,839 vehicle hours. To have operated this number of miles under two-man operation, on an operating expenses, accident payments and expenses, bond interest and redemption expenditures basis, it is estimated cost would have increased by \$405,000.

Another principal factor which has decreased the cost of operation this year has been the reduction in vehicle hours operated of 120,921 hours, and a reduction of miles operated of 1,174,265 miles over last year. In spite of increases in wages and salary rates, and increases in cost of materials and sup-

plies, operating expenses have decreased \$536,125 over last year.

### **Operating Revenues**

The Municipal Railway has experienced a decline of 3.74% in revenue passengers carried over last year. The resulting decrease in revenue has amounted to \$1,078,401 which is a factor accounting for the major part of the net loss in this year.

This decline is much less than that experienced by other transit lines of the United States. For the six months period ended June 30, 1955, compared with the same period ended June 30, 1954, for cities with a population of over 500,000 but less than 1,000,000, the average decline of passengers carried amounted to 6.15%.

Advertising revenue has increased from \$118,325 in 1953-1954 to \$143,340 in 1954-1955, increase of \$25,015.

The total decrease in operating revenue over last year has amounted to \$1,050,082.

### **Other Wage Increases**

The increased cost for the year of mechanical and other per diem employees' wages amounted to approximately \$24,100, and increases to miscellaneous monthly employees totaled approximately \$35,970. These increases are principally due to increases in wage and salary rates.

### **Power Cost Decrease**

The cost of electric power purchased during the year for all purposes was \$717,714, a decrease of \$8,399 over the previous year. This decrease is due principally to the reduced miles of operation for trolley coaches, and cable cars.

### **Gasoline - Fuel - Lubricants Decreased Costs**

Total cost per gallon of gasoline was reduced 1.28¢ on January 1, 1954, as

compared to the price July 1, 1953, and on January 1, 1955, it was reduced 0.79¢ per gallon over the January 1, 1954, price. This reduction in price together with the reduced number of motor coach miles operated has resulted in a reduction of \$118,216 in expenditures for fuels and lubricants compared with fiscal year 1953-1954.

### Materials and Supplies Decreased Costs

The cost of materials and supplies other than gasoline and oils used in operation totaled \$696,064, a decrease of \$33,803. This decrease is due principally to the reduced number of miles operated.

### Tire Rental Increased Costs

Tire rental costs increased \$2,464 over the previous year. While tire mileage was reduced, the change in the per cent of original base rate paid as tire rental accounts for this increase.

	% of Original Base Rate	
	1953-54	1954-55
First four months of fiscal year . . . . .	135.98	90.40
Last eight months of fiscal year . . . . .	90.40	119.52

### Social Security Increase

Social Security coverage cost for Railway employees charged to operating expense increased \$4,777. This is attributed mainly to an increase from 1.5% to 2.0% matching contribution on earning of employees up to \$3,600 effective January 1, 1954.

### Pension Costs Decrease

Pension cost to the Railway charged to operating expense decreased \$4,077. The rate contributed to the Retirement System of 6.502% of personal services has been in effect during both fiscal years.

### Platform Wage Fixing Formula Changed

At the election held on June 8, 1954,

a charter amendment was approved by the voters amending section 151.3 of the charter providing that the wages of platform employees and coach or bus operators be fixed each year by the Board of Supervisors not in excess of the highest wage schedule certified by the Civil Service Commission for each such classification, and providing that the Civil Service Commission certify to the Board of Supervisors for each classification of employment the highest wage schedule in effect on July 1st of that year for comparable platform employees and coach or bus operators of other street railway systems in the State of California operated in municipalities having each a population of not less than 100,000 as determined by the then most recent census taken and published by the director of the census of the United States, and each such system normally employing not less than one hundred platform employees or coach or bus operators, or platform employees, coach and bus operators.

Under this formula, wages were fixed effective July 1, 1955, as follows:

\$102 Conductor	\$104 Motorman
\$1.91 per hour if appointed and employed after Jan. 11, 1955. \$1.95 per hour effective March 1, 1956.	
\$2.04 per hour if appointed and employed on or before Jan. 11, 1955.	
\$106 Bus Operator	
\$2.04 per hour.	

### Nation-wide Transit Ills

Though it is an undisputed and acknowledged fact that mass public transit in our cities is an absolute necessity for their well-being and functioning, we now find almost universally throughout the nation that public transit systems are confronted with so many and varied problems as to threaten the solvency and operation of many of them. Some of the adverse factors being experienced are mentioned here.

The continued and mounting inroads of the private automobile have progressively taken riders from public transit, resulting in great losses in revenue. The systems still have to furnish the more costly peak hour services under increasing congested traffic conditions, but have lost much off-peak business when they have ample capacity.

Another factor is the change in pattern of our cities called decentralization requiring longer hauls and greater coverage in less densely populated areas.

Saturday business has been greatly reduced by the five-day work week which is being more and more adopted by industry.

Sunday business has also fallen off greatly due to the loss of riders to the private automobile.

Night travel has likewise greatly decreased, the effect of television being a major contributing factor.

Business has been concentrated to two rush hour periods five days a week, possibly for twenty to twenty-five hours each week, but requiring full capacity of vehicles and operators to handle these periods. About half of the equipment is idle in other periods.

Labor and material costs have continued to mount, and fare increases have helped only to a point, after which the loss of riders, due to fare increases, nullifies to a great extent the object of increased revenue sought.

The cities have found their costs of government have mounted because of the necessity of additional public services to outlying areas and have also found their former concentrated business areas, from which great tax income has always been received, now beginning to suffer as a result of traffic congestion and change in property values.

## **Problem of Supplying Adequate Modern Transit in San Francisco**

The magnitude of the task of supplying San Francisco with adequate modern transit facilities is greatly accentuated by reason of the hilly topographical features of the city, the density of its business, financial, hotel and apartment house area, and the geographical lay-out of its streets, with many of its principal streets converging into the main artery of Market Street.

In addition to this is the ever-increasing numbers of private automobiles being operated competing for street space with public transit vehicles to the extent that the street areas are now insufficient to accommodate the traffic flow, thereby impeding to a vital extent the movement of both public and private transit.

## **New Municipal Railway Accomplishments**

As a result of the many conversion changes, extensions and reroutings, and new equipment and facilities placed in service, the Railway can point to many noteworthy items reflecting its advancement.

### **1. Reduced Headways**

On lines that have been converted from streetcar to motor or trolley coach operation, headways between vehicles have been reduced 40 to 50 per cent, thereby lessening waiting time.

### **2. Mileage Service Still Maintained at High Level Despite Great Decrease in Revenue Passengers**

In the peak fiscal year of 1945-1946, the number of total passengers carried by the Railway was 326,007,393. For the past fiscal year 1954-1955, the total passengers carried amounted to 203,887,807, a decrease of 122,119,586, or 37.5 per cent.

While this great decrease in riders has taken place from the riders carried

nine years ago, the mileage service operated has decreased from 29,454,947 miles in 1945-1946 to 28,401,209 miles in 1954-1955. Only 3.7 per cent more miles were operated to carry 326,007,393 passengers in 1945-1946 than was operated to carry 203,887,807 passengers in 1954-1955.

### 3. Increased Seating

Due to the increased number of vehicles operated, the Railway now offers about 50 per cent more seats on converted lines during rush hour periods than there were nine years ago.

### 4. New Passenger Vehicles

New modern passenger vehicles purchased and placed in service since 1947 total 658, consisting of—

- 364 Trolley Coaches
- 259 Motor Coaches
- 35 Streetcars

### 5. Trolley Coach Overhead Construction

The new trolley coach overhead wire system now totals 127 miles—an increase of 110 miles since 1946.

### 6. Removal of Old Streetcar Tracks

Over 200 miles of worn-out single track miles have been removed from the city streets, and the streets repaved from curb to curb. Tracks totaling approximately thirty single track miles have also been removed.

### 7. New Operating Facilities

Modern new repair, storage, and maintenance facilities have been constructed at five locations. Facilities at two locations—Potrero and Presidio—are for trolley coaches; three at 24th & Utah, at Kirkland and at Ocean are for motor coaches.

At the Geary Street office building, improvements have been made, and new offices constructed. This location now houses formerly scattered departments and staffs in one central location with resulting increased efficiency.

### 8. Express and Limited Stop Services

A noticeable service improvement is the "Express" or "Limited Stop" coach routes now being operated. At June 30,

The Railway's ever-popular cable cars were the subject of an interesting sequence in the current Cinerama production. The hard-working movie crew loaded cameras and equipment on one of the cars and rode up and down San Francisco's hills for a week, shooting thousands of feet of film.



1955, express service on six lines and limited stop service on eight lines were being operated. Further expansion of such service is being planned.

#### **9. Retention of Fares at Below National Rates**

For a period of about thirty-two years from December 28, 1912, to September 29, 1944, the Railway retained the basic 5 cent fare with a free transfer on all lines. The 10 cent fare in effect on the Municipal Railway from January 26, 1949, through May 31, 1952, was considerably under the rates charged on the majority of comparable transit systems during this period when many other systems had fares ranging from 12 cents to 20 cents.

The fare increase to a 15 cent cash fare with free transfer placed in effect on June 1, 1952, is still lower than that being charged at present on a number of other systems where the fare now ranges from 17 cents to 20 cents. On Sundays and legal holidays, the Railway offers a "Sunday and Holiday Tour Ticket" selling for 50 cents which entitles the purchaser to tour the entire system during the day, riding at will, visiting the many points of interest in San Francisco.

#### **10. Central Information Bureau**

As a means of providing improved telephone information service, it was decided to centralize all of the information calls through one office rather than through the several departments and divisions of the Railway. Accordingly, a Central Information Center was set up on February 4, 1952, in room 212 at 949 Presidio Avenue. This office is open daily from 7:00 a.m. to 10:00 p.m. weekdays, Saturday, Sundays, and Holidays.

During the past fiscal year, this central office handled 338,298 informatior

calls. The total information calls handled since the establishment of this bureau on February 4, 1952, through June 30, 1955, totaled 1,102,788. In addition during the past year, this central office handled 2,368 complaints. Of these 923 were referred to other departments. The other 1,445 complaints were handled direct by the central office. Management has received many letters of commendation on this service.

#### **11. Carhouses, Bus Yards, Trolley Coach Yards, Shops and Offices**

Another major accomplishment that has added many years of life to the properties, and saved and will continue to save the Railway considerable in more efficient repairs and maintenance of its rolling equipment and handling of stores, and that has enhanced the appearance of the Railway and improved the conditions under which the employees have been working, is the construction and rehabilitation of carhouses, bus yards, trolley coach yards, shops and offices.

- Ocean Bus Yard Construction
- Potrero Carhouse Conversion and Mariposa Yard Construction
- Geary Carhouse Conversion and Presidio Yard Construction
- Kirkland Bus Yard Construction
- Remodeling Geary Offices
- Alteration to Geneva Office
- Rehabilitation of 24th and Utah Shops
- Purchase of Carhouse, Garage and Shop Equipment
- Modernization of Machine Shop Tools at Elktion Shops

#### **12. One-man Streetcar Operation**

At the election of June 8, 1954, the voters approved an initiative ordinance amending an initiative ordinance passed on May 2, 1935, to permit one-man operation of street railway cars acquired after January 1, 1939.

The 25 PCC Cars Nos. 1016 to 1040, inclusive, were converted to one-man operation and placed in service as one-man operated cars on the "K-L" Ingle-side-Taraval line on September 12, 1954. The remaining PCC type Cars Nos. 1001 through 1015, which required more extensive changes, were converted later and on January 16, 1955, one-man car operation was introduced on the "N" Judah line.

During this portion of the fiscal year to June 30, 1955, one-man cars have operated 1,156,982 miles and 114,839 vehicle hours, and have hauled 7,487,152 passengers. Operating expenses, accident payments and expense, bond interest, and bond redemption expenditures amounted to \$933,367.92. On this same basis, to operate 1,156,982 miles of two-man car operation, total expenditures would have been \$1,338,419.13, indicating a saving of \$405,051.51 from one-man operation.

### **13. Decrease in Employments**

During the period since consolidation of the Municipal Railway and the Market Street Railway, there has been a decrease of 1,629 employments. The platform men reduction has been possible because of the shift from a system in which two-man streetcar operation predominated, to one in which the more economical motor coach and trolley coach operation predominate.

The reduction in the miscellaneous force has been a gradual one, and a policy which has been followed of not filling vacancies when they occur, unless it is absolutely necessary, has made it possible to reduce the number of employments without laying off permanent employees.

### **14. Modern Surface Transportation System**

The Railway now presents in major part a modern and efficient public

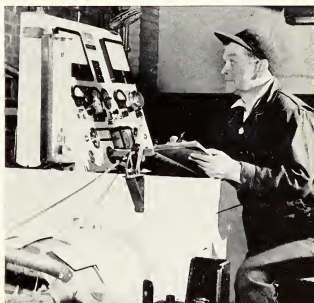
transit system. The new trolley coaches now operating on the Railway routes with the steepest grades have clearly demonstrated their ability to climb these grades, fully loaded, with ease and facility.

With the aid of the modern mechanical coach-washing facilities at the Potrero, Ocean, Presidio, and Kirkland Divisions, and with the enforcement of the no-smoking ordinance in the coaches, all motor and trolley coaches are being maintained in a clean and sanitary condition, both as to exteriors and interiors. All equipment has been painted in the standard green and cream colors.

- 7 Streetcar Lines
- 3 Cable Car Lines
- 15 Trolley Coach Routes
- 38 Motor Coach Routes

The advantage of curb-loading is offered on its coach lines. Courtesy of

Using this latest version of an engine dynamometer a Railway mechanic makes a final adjustment and test under load to a reconditioned engine before being replaced in the coach body.





its operators to patrons has been stressed by the management with a noticeable improvement in this respect.

### Cable Cars

As an economy measure, the Public Utilities Commission, on January 11, 1954, approved a plan, referred to as Plan #3, which briefly provided for the discontinuance of the No. 62 Hyde, and No. 63 Jones lines, and for operation of the No. 61 California line from Drumm to Van Ness, only, with substituted motor coach service by the No. 80 Leavenworth Motor Coach Route and augmented service on the No. 55 Sacramento Route. This plan was approved by the Board of Supervisors and later in the fiscal year was put into effect. At the present time, the Railway is operating under this plan.

A plan referred to as "Plan B," to consolidate and improve the cable car system with operation from the Washington & Mason Powerhouse, after consideration by the Public Utilities Commission and Board of Supervisors, was submitted to the voters, on June 8, 1951, as a proposed charter amendment and was approved by a "Yes" vote of 92,390 to a "No" vote of 80,584.

"Plan B" briefly provides permanent cable railway lines into the Washington & Mason Powerhouse, as follows:

No. 59 Powell-Taylor  
No. 60 Powell-Hyde  
No. 61 California (Market Street to Van Ness Avenue)

### Lease of New Diesel Coaches

On May 16, 1955, a contract was entered into with the Mack Motor Truck Corporation for the lease of 440 diesel coaches on a mileage basis.

At the close of the Fiscal year negotiations were underway to modify the contract to permit delivery of the second fleet of 70 coaches commencing

March 1, 1956, and requisitions had been issued for delivery of the first 170 of these new diesel coaches.

### Activities for Civil Defense

Activities of the Railway's defense program, under the direction of H. E. Cooley, Assistant Superintendent of Transportation, and W. D. Ratto, Assistant Director of Safety, for the fiscal year ending June 30, 1955, were as follows:

The telephone switchboard of the Railway handled the following test alerts during the fiscal year:

Monday, July 26, 1954	at 10:00 A.M.
Monday, August 30, 1954	at 10:00 A.M.
Monday, September 27, 1954	at 10:00 A.M.
Monday, October 25, 1954	at 10:00 A.M.
Monday, November 29, 1954	at 10:00 A.M.
Monday, December 27, 1954	at 10:00 A.M.
Monday, January 31, 1955	at 10:00 A.M.
Monday, February 28, 1955	at 10:00 A.M.
Thursday, May 5, 1955	at 10:00 A.M.

Several meetings were held during the year with Civilian Defense Transportation personnel to work out dispersal plans using the Railway's facilities to evacuate citizens and school children.

Standby gasoline generators have been installed at Railway's headquarters, 949 Presidio Avenue, and at the station on Twin Peaks, to operate our Central Control Radio Station in case of power failure.

The Disaster Council has delivered to our various coach yards sufficient plywood stretcher boards and paper blankets to equip 420 of our motor coaches into super ambulances to be used for evacuation in case of disaster.

The Municipal Railway will have the following equipment in case of disaster:

Street Cars . . . . .	185
Cable Cars . . . . .	53
Trolley Coaches . . . . .	398
Motor Coaches . . . . .	444
Total . . . . .	1,080



Shown here are two operators from Presidio Division participating in the yearly General Sign Up. This procedure allows personnel to select runs in accordance with seniority. Approximately 1,800 employees select their runs from over 1,400 working shifts.



In addition 32 radio equipped wreckers, cars and trucks, are available and can be in service without undue delay. The Railway also has some eighty other motor vehicles of all kinds available if needed.

#### **Radio Control System and Headway Recorders**

In line with modern transportation methods, during the past year the two facilities which were inaugurated in the fiscal year 1946-1947, designed to speed up schedules and to control and improve service, were continued in operation. One is the two-way radio installation with transmitter located on

Twin Peaks. This installation provides contact with two-way radio-equipped mobile units. The other is a headway recorder system electrically recording headways at forty locations. Two contactors at each location record cars and trolley coaches traveling in both directions. Both installations are operated from a central control room at the Geary Street Carhouse.

Central Control radio station with twenty-nine mobile units was inaugurated on January 6, 1947, and on October 29, 1953 one additional unit was added and assigned to the Claims Bureau.

The following is a statement of messages transmitted by radio for the period July 1, 1954 to June 30, 1955:

Month—1954	Monthly Total	Daily Averages
July	10,800	348
August	10,935	353
September	10,103	337
October	10,150	333
November	10,695	356
December	10,805	349
Month—1955		
January	10,406	336
February	9,005	321
March	10,303	332
April	9,530	317
May	9,566	308
June	9,566	308
TOTAL	122,200	335

#### Citations Issued to Motorists

On June 3rd, 1947, Inspectors of the Municipal Railway, all of whom are also Special Officers, were authorized by the Chief of Police to issue citations to vehicles parked in coach zones. During the fiscal year 1954-1955, 14,222 citations for coach zone parking were issued.

#### Parades Require Special Operation

Parades on Market Street require the removal and rerouting of all motor and trolley coaches and the switching of street cars. Twenty-two Inspectors are needed for this operation. Listed below are four parades during the last fiscal year which necessitated this re-route operation:

- American Legion—July 23, 1954 (Night)
- American Legion—July 26, 1954 (Day)
- Columbus Day—October 10, 1954
- Saint Patrick's Day—March 20, 1955

In June 1947, a radio receiver with a fixed frequency tuned to the police radio station was installed, enabling the operators of Central Control to be informed of fires and accidents which might affect the streetcar lines or coach routes of the Railway.

#### Central Control Acts As Operations Center

Central Control is in operation daily from 6:00 A.M. to 2:00 A.M., during which time the Central Control Inspector on duty receives and answers all radio and telephone calls pertaining to the operations of the Railway and checks the headway recorders. Telephone communication is routed through the main telephone switchboard operated by the Railway.

#### Central Lost Property Department

A very important public function is performed by the railway's Central Lost Property Department, the efficient and courteous operation of which is very conducive to the establishment of good public relations with approximately 204,000,000 annual riders of the system.

When lost property is found by or turned over to any of the railway's car or coach operators he turns the article into the division from which he operates. It is then tagged and recorded and if uncalled for is forwarded the next day to the railway's Central Lost Property Department at 949 Presidio Avenue. This department is open from 8:00 a.m. to 5:00 p.m. Monday through Friday, Holidays excepted.

Most articles are held for thirty days, but valuable items such as wrist watches, purses and money are held at least sixty days before they are written off and returned to finders. In the event the finder has no interest in the item, it is eventually given to a charitable organization.

Every effort is made to ascertain the rightful owners of this lost property through the scanning of Lost and Found ads in the newspapers and the searching for any record of identification.

This department is staffed by two

employees who, in addition to their lost property duties, handled 49,544 school ticket sales to students during the past fiscal year.

In the past fiscal year this department handled 13,242 articles, of which 4,763 articles were returned to their owners. Money and checks turned in totaled \$8,672, of which amount \$8,039 was returned to owners.

### Sunday - Holiday Tour Tickets

Sunday and Holiday Tour Tickets are sold to the public at a minimum cost, to make available tours to the many points of interest in the city. While there has been no noticeable increase or decrease in gross revenue as a result of the use of these tickets, they are thought to be of considerable value from a public relations point of view.

The number of these tickets sold and the amount received from sales of same in the past four fiscal years are as follows:

	Number Tickets	Amount
1951-1952	221,416 @ 35¢	\$ 77,495.60
	26,658 @ 50¢	13,329.00
1952-1953	286,510 @ 50¢	143,255.00
1953-1954	296,707 @ 50¢	148,353.50
Total 3 Years		
to 6-30-54	831,291	382,433.10
1954-1955	302,932 @ 50¢	151,466.00
Total 4 Year Period		
7-2-51 to 6-30-55	1,134,223	\$533,899.10

### Postal Employee Revenue Increased

As a result of a request made to the United States Post Office Department for an increase in the yearly charge for transporting postal employees, a new contract was entered into effect June 1, 1952, providing for an increase of \$25,000 per year from the old charge of \$50,000 to the new charge of \$75,000 per year and providing for payments quarterly in the amount of \$18,750 each.

Effective July 1, 1954, a contract was entered into with the United States Post Office Department to transport de-

livery carriers within the limits of the Post Office of Daly City at an annual rate of \$750 and providing for payments quarterly of \$187.50.

### Decrease in Operated Electric Streetcar Trackage

As of June 30, 1945, the consolidated Railway system was operating 269.29 miles of electric streetcar and cable car single trackage, exclusive of sidings, turnouts, and carhouse tracks.

On June 30, 1955, ten years later, the operated electric streetcar and cable car trackage totaled 61.08, a reduction of 208.21 miles.

Approximately 200 miles of single track have been removed from city streets and thirty miles from rights of way. About twenty remain to be removed.

### Housing and Yard Facilities

The 24th and Utah Garage which before the fire that occurred March 24, 1952, was used as an operating division has been completely remodeled and rehabilitated and with the installation of much needed heavy equipment has been converted to a modern, efficient service center for the Railway's fleet of motor coaches. All major motor coach repairs are now made at this garage. The cost of this remodeling work amounted to \$165,524.63.

The railway has six modern mechanical coach washers in operation to handle the great task of keeping its combined fleet of 842 motor and trolley coaches as clean and presentable as possible. These mechanical washers cost approximately \$9,300 each, not including installation costs.

Of those operated, one is located at the Ocean division, one at the Kirkland division, three at the Potrero division, and one at the Presidio division.

## Transportation Department Operation

The Transportation Department is charged with one of the most important duties of Railway operation, that of supervising and instructing platform men and those persons within the department so that better service may be maintained at all times and the public properly served, and a high degree of public relations maintained. On this will depend the success of the Railway.

The Transportation Department investigates all complaints about service and where possible, correcting them, also with coordinating the activities of this department with all other departments and notifying the Superintendent of Traffic of any inadequate service.

One of the greatest problems to be solved has been guaranteeing vacations to the platform personnel, without diminishing service or changing time tables, and still eliminating excessive overtime. Part of the vacations are for two weeks and part for three weeks.

We accomplished this through the cooperation of the Civil Service Commission in endeavoring to hire platform personnel each week instead of periodically throughout the entire year.

At the present time the work week in private industry is on a basis of five days and in most cases day work only. This makes it difficult to obtain proper personnel for the trolley buses, motor coaches, and streetcars, inasmuch as the platform personnel are required to work nights. This makes an undesirable situation where we have to compete on the labor market for platform personnel with private industry. People who are looking for work prefer to work only five days a week with no night work.

While we have 143 less employments on the platform than we had in the fiscal year from July 1, 1953 to June 30, 1954, this was due in part to the policy of recruiting desirable platform employees and more efficiency in the time tables.

## Schedule and Traffic Department

The fiscal year 1954-1955 was one of considerable activity for the Schedule and Traffic Department, as indicated by the following figures:

Passenger Traffic Checks made . . . .	609
Running Time Checks made . . . . .	182
Special Traffic Studies made . . . . .	33
New Schedules drafted and used . . . .	188
New Schedules drafted for future use . .	40
New Schedules drafted but not used . .	108
Total New Schedules drafted . . . . .	336
Revisions of Existing Schedules . . . .	221

## General Information Bureau

As a means of providing improved telephone information service it was decided to centralize all of the information calls through one office rather than through several departments and divisions of the railway. Accordingly, Central Information Center was set up on February 4, 1952, in Room 212 at 949 Presidio Avenue.

This office is open daily from 7:00 A.M. to 10:00 P.M. weekdays, Saturdays, Sundays and holidays.

During the last fiscal year July 1, 1954 to June 30, 1955, the Information Center handled 338,298 calls.

In addition, the Center handled 2,368 complaints, during the year, of which 923 were referred to other departments of the Railway while the balance of 1,445 were handled by the central office.

Total calls handled by this department from February 4, 1952 to June 30, 1955 — 1,102,788.

The railway has received a number of commendations for the excellent service this information center has

been able to render. Many visiting transportation men have visited the center, some asking for further information that would enable them to set up similar departments on their property.

#### **Runs—Manpower—Vehicle Requirements**

At the mid-year point, schedules included 1256 runs, requiring 1398 men. 864 cars and coaches were required to fill peak period schedules.

#### **One-man Cars**

Pursuant to action by the electorate of San Francisco in June 1954, one-man operated PCC cars were introduced on the "K" line on September 12, 1954. This required new schedules to make maximum use of these cars.

This type of operation was extended to the "L" line on January 16, 1955, and to the "N" line on the same date, requiring new schedules.

#### **Running Time**

One of the important projects of the Department over the past several years has been establishment of running time, based on actual operating conditions as they exist at the various periods of the day and night, including a reasonable amount of recovery time at terminals to absorb minor delays where practicable.

In addition to running time checks on a number of other lines, all Market Street trolley coach and motor coach lines were resurveyed and time points established at junctions where lines enter or leave Market Street. This facilitates operation of coaches in proper sequence.

#### **Switchbacks**

Any considerable delay for any reason tends to cause "switchbacks," where cars or coaches must be turned short of the intended terminal. They indicate interruptions to service and

inconvenience to patrons. Those due to fires, blockades and accidents are practically unavoidable.

The following figures, however, will indicate a decrease in the number of switchbacks over the past several fiscal years and the current fiscal year indicates a further improvement in the quality of service being furnished to patrons.

	SWITCHBACKS	
	Total for Fiscal Year	Average Per Day
1950-1951 . . . .	47,034	129
1951-1952 . . . .	32,348	88
1952-1953 . . . .	26,127	72
1953-1954 . . . .	18,682	51
1954-1955 . . . .	15,925	44

#### **Limited Stop and Express Service**

Limited Stop and Express Service has proven very popular with patrons. When new motor equipment is received, this type of service will be expanded to certain other lines, including operation over the Bayshore Freeway and via the Broadway Tunnel.

Express service was furnished on the following lines: No. 2 (Clements), No. 14 (Mission), No. 15/42 (Navy Shipyard), No. 16 (Noriega), No. 26 (Daly City).

Limited Stop service was furnished on the following lines: No. 2 (Clement), No. 14 (Mission), No. 15 (Third), No. 31 (Balboa), No. 55 (Sacramento), No. 66 (Masonic-Quintara), No. 71 (Haight-Noriega), No. 72 (Haight-Sunset).

#### **Economy Measures and Service Adjustments**

In addition to economies effected through one-man car operation, a considerable saving was made in revision of cable car service which was approved by the electorate in June 1954. Also, the regular program of the Schedule and Traffic Department in-

cluded headway and service adjustments, as warranted, based on passenger traffic checks and running time surveys. This has brought the amount of service furnished into closer relationship with the need for service.

### **Mileage Reduction**

The total car and coach miles for the fiscal year 1954-1955 was 28,401,209—as compared with 29,575,474 for the previous fiscal year—a reduction of over a million miles. This is in addition to a reduction of approximately another million miles for 1953-1954—as compared with 1952-1953.

These adjustments were carefully worked out and were effected with very little complaint or comment on the part of the public.

### **Special Schedules**

Special schedules were prepared for the pre-Christmas season allowing additional recovery time to absorb delays due to extreme traffic congestion on lines serving the retail shopping area. This made a very noticeable reduction in December switchbacks as compared with previous years.

Special New Year's Eve schedules provided 36 additional vehicle hours of operation, as compared with 194 hours for New Year's Eve 1953—264 hours for New Year's Eve 1952—and 715 for New Year's Eve 1951.

Special schedules were prepared for Easter Sunrise Service on Mount Davidson and for Mother's Day, Easter, and Memorial Day traffic to the cemeteries.

The change from Standard Time to Daylight Saving Time in the Spring and back again to Standard Time in the Fall required special schedule preparation.

Temporary tables were also prepared as required for revised routing

and headways in connection with certain construction projects, as well as for numerous special occasions and events.

### **Special Studies and Surveys**

The Schedule and Traffic Department made a considerable number of surveys for rerouting of transit lines and extensions. Meetings were held from time to time with community representatives, or community groups, for the purpose of working out transportation problems.

### **Maintenance of Equipment—Activities at Elktion Shops, Car Houses, and Trolley Coach Divisions**

The usual program of maintaining all operating equipment in first class condition and adequately cleaning and disinfecting passenger vehicles was continued in force throughout the fiscal year.

Changes in rolling stock inventories consisted of the sale of 12 obsolete cable cars, 24 obsolete motor coaches, and the scrapping of 2 obsolete automotive service trucks. As a result of these reductions, the rolling stock inventory as of July 1, 1955 includes a total of 185 Electric Passenger Cars, 53 Cable Passenger Cars, 398 Trolley Coaches, 444 Motor Coaches, 14 Electric Work Cars, 25 Passenger Automobiles, 53 Service Trucks, and 3 Motorcycles.

### **Additions and Improvements**

Rehabilitation of 24th Street Garage under Municipal Railway Contract #428 was completed on December 21, 1954. The general public were invited to an Open House on December 17. About 400 people enjoyed the demonstrations of machines and procedures, after which refreshments were served. Refreshments and presents for the

children were supplied by men of Unit Repair Department.

With the 12,900 square feet of new floor space available, the Unit Repair Department now functions smoothly. Special test stands, benches and fixtures have been constructed and are used to considerable advantage. A 24" shaper, originally located at California Cable Division, has been reconditioned and set up for use. A radial drill was transferred from Elkton Shop and is in the process of being rebuilt to suit particular automotive repair needs. Special tools and attachments have been fabricated including a machine for lapping extra smooth surfaces.

#### **Automotive Stores Expanded**

Area formerly occupied by the Unit Repair Shop has provided greatly needed space for rearrangement and expansion of the Automotive Stores Department. The housekeeping and material control procedure of this department is maintained in a highly efficient manner.

#### **Better Maintenance on Engines**

Engine life has been lengthened from an average of 75,000 miles to 90,000 miles. This has been due to several mechanical changes and use of better material. Brake lining wear ratios of  $2\frac{1}{2}$  to 1 have been achieved through better friction materials and operating mechanism design changes.

#### **New Valve Successful**

Safety check valves are being installed on all brake chambers and hoses in an effort to conserve air supply in the event of rupture of either hose or diaphragms. These valves were selected, after long study, on the basis of simplicity, reliability, and ease of maintenance.

#### **Safety Devices Installed**

Installation of audible right hand

turn signals has been delayed by slow delivery of materials. Approximately 200 coaches have been so equipped to date.

Substitution of larger more visible turn signal lamps for original small units has been suspended due to imminent vehicle replacement program.

#### **Experimental Work on Plastics**

Experiments are being conducted in fabricating body replacement parts with fibre glass. Preliminary work with the plastic gives indication of considerable savings being possible by the use of this material for manufacture of obsolescent parts.

#### **Power Purchased and Power Costs**

From July 1, 1954, to June 30, 1955, the total power consumption of Municipal Railway substations, including Mason and Washington and the California cable stations, was 45,687,620 K.W.H. purchased at a cost of \$377,-094.72. This energy is purchased as alternating current and converted to direct current by the Railway at its substations.

The Railway also purchased during the year 25,434,232 K.W.H. of direct current for operation of the Municipal Railway at a cost of \$284,259.18. The average cost of the alternating current purchased for propulsion was .00825 per K.W.H., while the direct current purchased averaged .01118 per K.W.H. To the alternating current cost of .00825 per K.W.H. should be added our substation conversion cost of approximately .00388 per K.W.H.

The Railway also purchased during the year power in the amount of 3,671,-794 K.W.H. for use in car and coach houses, shops, and tunnels at a cost of \$44,853.70, or an average cost of .0122 per K.W.H.

The total electric energy purchased

for all purposes was 74,793,646 K.W. H. at a cost of \$706,207.60, or an average cost of .00944 per K.W.H. If conversion cost of \$177,148.72 on alternating current purchased is included, the average cost of all power purchased for the year was .01181 per K.W.H.

#### **Other Departmental Functions**

The Motive Power Department operates and maintains power conversion equipment for the operation of most of the 600 volt direct current trolley lines. Power is distributed through five manually operated and two automatic substations and maintains the electrical equipment of the Mason & Washington and California Cable driving machinery; also maintenance and repairs of headway recorders at Central Control office.

The department also keeps records of Demand and Watt Hour meter readings for the compilation of power consumption, daily attendance reports and prepares working schedules for regular work shifts, vacations, sick and holiday reliefs for the employees of the department.

The equipment of the power stations consists of: 13 Motor Generator Sets, 6 Rotary Converters, 2 Sets of Mercury Arc Rectifiers, 4 Cable Driving Motors and their auxiliaries and control apparatus.

#### **Maintenance of Equipment in the Five Manually Operated Stations**

Annual overhauling of the remote controlled operating mechanism, overhauling or changing contacts, renewing insulating oil of the twenty 15,000 volt large automatic oil circuit breakers used for the high voltage lines which are supplying the various stations.

#### **Bureau of Personnel and Safety**

The Limited Tenure program for recruitment of operating personnel was

continued during the year. Of the 466 candidates who qualified in the written examination conducted by Civil Service 192 were able to qualify in the medical examination and the practical driving and psycho-physical tests conducted under the supervision of the Bureau of Personnel and Safety. In the latter months of the fiscal year there were fewer, but a noticeably improved caliber of men reporting from Civil Service.

One regular civil service examination was held in which a total of 147 Limited Tenure employees replaced themselves in a permanent civil service status.

#### **Accidents**

During the fiscal year 1954-1955 the total number of all types of accidents was 6,725 as compared with 7,425 during the fiscal year 1953-1954, a reduction of 700 accidents, or 9.43%.

The total number of operational accidents during the fiscal year was 5,687 as against 6,393 during the fiscal year 1953-1954, showing a reduction of 706 operational accidents, or 11.04%. Operational accidents include traffic, passenger and certain miscellaneous types of accidents.

#### **Many Factors Influence Accident Rate**

Among the factors faced by the Railway in its constant effort to reduce the number of accident occurrences are: operating personnel turnover rate, still considered high at 18% for 1954-1955 as compared with 19% for 1953-1954; longer operating schedules made necessary by court decision, resulting in increased exposure; and greater density of private vehicle traffic. Despite the foregoing, the Railway's accident occurrences have been kept comparable with other organizations in the industry.



## **Classes, Inspections and Interviews Prove Helpful**

Transit Fleet Training classes are held weekly throughout the year to assist operating personnel in perfecting themselves in general methods of transit operation and safety. In addition, personal interviews are held, with analysis of accidents, developing remedial measures to be taken.

Regular inspections of shops, offices, buildings, equipment and grounds are made, resulting in recommendations for necessary changes to insure the maximum safety to both patrons and employees. Employees' industrial accidents are analyzed, and preventive measures are recommended to foremen in charge of their respective locations. Booklets, pamphlets and mimeographed safety material are distributed.

Daily traffic and passenger accidents are screened, and remedial measures taken to improve or eliminate the underlying causes.

In cooperation with the San Francisco Police Commission, San Francisco Police Traffic Engineering Department and the City Traffic Engineer's Office, the Railway's vehicles and traffic in general are expedited throughout the city by the installation of safety zones, coach zones, skip-stops, and the establishment of no parking zones and tow-away streets.

Representatives from the Bureau of Personnel and Safety, Public Utilities Commission Engineers and other interested departments of the Railway make safety and operational inspections of contracts let for Railway improvements.

## **Reporting System Reduces Hazards**

A "Hazard Reporting System," newly instituted, is the reporting of haz-

ards observed by employees to a central agency, namely, Bureau of Personnel and Safety, which in turn, refers the matter to the appropriate city department for possible correction. These reports are acknowledged to each individual.

## **Safe Driver Award Continues**

The Safe Driver Award Program of the National Safety Council, which has been in effect on the Railway since 1949, has tended to stimulate safer operating practices among the transit personnel. From an operational accident rate of 30.14 per 100,000 miles for the fiscal year 1949-1950 the rate has dropped to 20.02 for the fiscal year 1954-1955. During sixty-seven months of the Safe Driver Award Program, through May 1955, a total of 2,451 One Year, 1,018 Two Year, 517 Three Year, 293 Four Year and 139 Five Year Awards have been made to 1,707 individuals of the operating personnel.

## **Department of Accident Investigation**

The number of traffic and passenger accidents reported for the fiscal year 1954-1955 was 5,687, and unusual occurrences (including broken windows) was 1,038 for a total of 6,725—a decrease of 700 from 7,425 accidents and occurrences reported during the fiscal year 1953-1954.

Accident claims filed in 1954-1955 decreased from 2,911 to 2,725, a decrease of 186.

A tabulation of accident occurrences and total accident costs for the past seven fiscal years ended June 30, 1955, which follows, indicates that excellent results have been obtained from this safety education policy.

Compared with five years ago, accident occurrences for the fiscal year 1954-1955 show a decrease of 2,677 from the fiscal year 1948-1949, or a

decrease of 28.47 per cent. Comparing the same fiscal years, claims filed showed a decrease of 817 filings or 23.07 per cent. The decrease in claims filed is very gratifying, especially in view of the claims mindedness of the public in recent years.

### Anticipated Decrease in Accident Payments

As in past years, the net amount expended during the year for accident payments and costs, totaling \$1,640,853, provided for the disposition of a considerable number of old accident cases.

The ratio of claims expenditures to operating revenue was 7.781 per cent in 1951-1955 as compared with 8.031 per cent in 1953-1954. The decrease in claims filed, accident occurrences, and claims expenditures provides a basis for further anticipated decrease in accident costs.

The Railway maintains an unfunded reserve for accidents which is created through a charge to income and a credit to reserve.

In the past year the amount placed in reserve was 7.50 per cent of the gross passenger revenue, or a total of \$1,567,375.97, while the net expenditures for accident payments and costs totaled \$1,610,852.63.

### Collections for Damage to Railway Property

The policy of collecting for damages to Municipal Railway property from motorists and others liable therefore was instituted on August 1, 1911. In the past years, this policy was extended to include reimbursement to the Railway from parties ascertained to be liable for accidents for which the Railway paid amounts for personal injuries and damages.

REVENUE PASSENGERS	CALENDAR YEAR	VEHICLE MILES OPERATED
125,011,516	1943	11,872,821
169,464,705	*1944	16,268,268
252,186,037	1945	29,413,467
232,610,669	†1946	29,602,687
221,416,656	1947	29,729,323
212,338,948	1948	29,590,587
195,832,797	1949	31,283,532
183,419,710	1950	29,921,213
182,060,175	1951	29,401,287
168,031,865	‡1952	29,994,921
157,056,961	1953	30,060,662
150,436,350	1954	28,923,263

\*Figures for calendar year 1944 include the consolidated operation of the acquired Market Street Railway Company and the Municipal Railway of San Francisco. Date of consolidated operation September 29, 1944.

†No operation for 4 days June 30 to July 3 inclusive, 1946, on account of strike conditions.

‡No operation for 3 days Feb. 20 to Feb. 22 inclusive, 1952, on account of strike conditions. Figures for 1952 include operation of the acquired California Street Cable Railroad from January 13, 1952.

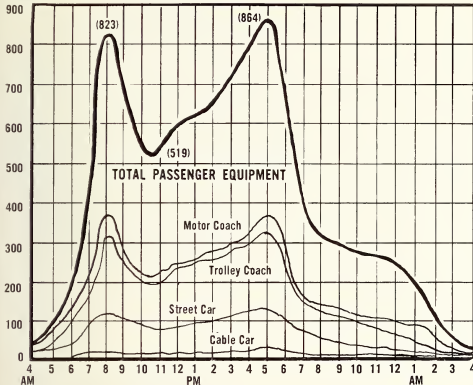
The following is a summary of collections made by fiscal years since the inception of this procedure:

Fiscal Year	Amount Collected
1941-1942 (11 months only)	\$ 3,016.40
1942-1943 . . . . .	2,310.69
1943-1944 . . . . .	5,017.99
1944-1945 . . . . .	5,398.76
1945-1946 . . . . .	9,468.23
1946-1947 . . . . .	22,229.23
1947-1948 . . . . .	21,769.51
1948-1949 . . . . .	20,541.77
1949-1950 . . . . .	26,243.15
1950-1951 . . . . .	16,087.69
1951-1952 . . . . .	13,062.85
1952-1953 . . . . .	25,346.06
1953-1954 . . . . .	20,068.88
Sub-total (13 Fiscal Years)	\$190,561.21
1954-1955 . . . . .	22,729.35
<b>Total . . . . .</b>	<b>\$213,290.56</b>

# TOTAL PASSENGER EQUIPMENT

WEEKDAYS  
SCHEDULED BY 15-MINUTE PERIODS

Passenger  
Equipment



## CLAIMS FILED, ACCIDENT OCCURRENCES, TOTAL PAYMENTS AND COSTS SEVEN YEARS ENDED JUNE 30, 1955

Year	Claims Filed	Occurrences	Total Payments and Costs
July 1, 1948 to June 30, 1948 . . . . .	3,878	*10,877	\$1,566,342
July 1, 1949 to June 30, 1950 . . . . .	3,542	* 9,402	1,201,226
July 1, 1950 to June 30, 1951 . . . . .	3,226	** 7,597	1,425,063
July 1, 1951 to June 30, 1952 . . . . .	3,495	** 8,226	1,582,740
July 1, 1952 to June 30, 1953 . . . . .	3,420	** 8,408	2,009,695
July 1, 1953 to June 30, 1954 . . . . .	2,911	** 7,425	1,777,902
July 1, 1954 to June 30, 1955 . . . . .	2,725	** 6,725	1,640,853

\* Above accident occurrence figures include employee accidents, report of broken windows, accidents reported as "unusual occurrences," as well as operating accidents.

\*\* This marking indicates that these accident occurrence figures include all types indicated under \* except that employee accidents are not included.

**FISCAL YEAR 1954-1955**  
**MUNICIPAL RAILWAY**  
**FINANCIAL RESULTS OF OPERATION**

**What We Received:**

Passenger Fares . . . . .	\$20,898,346
Advertising Revenue . . . . .	143,340
Miscellaneous Revenue . . . . .	93,496
<b>Total Revenue . . . . .</b>	<b>\$21,135,182</b>
Ad Valorem Taxes . . . . .	2,079,280
Prior Year's Surplus . . . . .	359,839
<b>Total Receipts . . . . .</b>	<b>\$23,574,301</b>

**Where Money Went:**

Salaries, Wages including Retirement, Sickness and	
Industrial Injury Compensation Benefits . . . . .	\$15,875,973
* Miscellaneous . . . . .	5,117,088
Bond Interest . . . . .	259,479
Bond Redemption . . . . .	1,600,000
Reconstruction and Replacement . . . . .	96,000
<b>Total Expenditures . . . . .</b>	<b>\$22,948,540</b>
Transferred to Surplus . . . . .	625,761
	<b>\$23,574,301</b>
* Material and Supplies . . . . .	\$ 1,934,816
Passenger and Damage Claims . . . . .	1,298,940
Heat, Light and Power . . . . .	717,715
Tire Rental . . . . .	336,259
Diesel Coach Rental . . . . .	425,172
Other . . . . .	404,186
	<b>\$ 5,117,088</b>



## RECEIPTS

- (A) Passenger Fares—88.5%
- (B) Ad Valorem Taxes—9.0%
- (C) Surplus—1.5%
- (D) Miscellaneous—1.0%



## EXPENDITURES

- (A) Salaries, Wages and Benefits—67.5%
- (B) Surplus—2.6%
- (C) Bond Redemption—6.8%
- (D) Bond Interest—1.1%
- (E) Miscellaneous—21.6%
- (F) Reconstruction and Replacement—0.4%

Some idea of the power generated through water supply can be seen in this photograph taken at the spill over O'Shaughnessy Dam.



Shown here is the outlet side of Moccasin Power House after energy has been taken out of turbines and discharged to San Francisco and other consumers.



Accurate, hourly readings are taken of gauges showing water pressure at nozzles of water turbines at Moccasin Power House.



# Hetch Hetchy

## WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU

### Organization and Functions

The long name "Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau" actually describes two separate functional departments within the organization of the Public Utilities Commission. These departments are the Hetch Hetchy Water Supply and Power Project, and the Utilities Engineering Bureau.

The "Hetch Hetchy Project" is the organization responsible for the management, operation and maintenance of the Hetch Hetchy Water Supply and Electric Power Systems. It collects and delivers the major share of the water distributed by the Water Department, which pays the Hetch Hetchy Project for this service. The Power Division of the Project sells the power generated to the various other municipal departments and to miscellaneous customers, including the Modesto and Turlock Irrigation Districts, Permanente Cement Company, Kaiser Aluminum and Chemical Corporation, and the Riverbank Ordnance Plant. The revenues from water and power sales make the Hetch Hetchy Project self-supporting.

The Utilities Engineering Bureau is a service organization. It performs engineering work for the Hetch Hetchy Project, the Airport Department, and the Municipal Railway, planning and supervising all new construction for those utilities, and providing engineering service in connection with maintenance and reconstruction of existing facilities.



HARRY E. LLOYD  
General Manager

### Water Storage and Diversion

The precipitation in the Tuolumne River watershed area for the season 1954-55 was approximately 75% of normal. The Tuolumne River runoff as measured in terms of computed natural flow at La Grange was 1,124,431 acre feet during the fiscal year, or 57% of the normal seasonal natural flow of 1,980,000 acre feet.

There were 37,887,100,000 gallons of water diverted by the City from the Tuolumne River watershed during the fiscal year 1954-55, an increase of 14.5% over the previous year, making a grand total of 358,186,900,000 gallons diverted since the Hetch Hetchy Aqueduct began operation.

The water in storage in the Hetch Hetchy System on July 1, 1955, in comparison with July 1, 1954, is shown below.

	1954 Acre Feet	1955 Acre Feet
Reservoir		
Hetch Hetchy . . . . .	333,514	341,600
Lake Eleanor . . . . .	27,016	27,200
Priest, Forebay . . . . .	574	479
Total . . . . .	361,104	369,279

### San Joaquin Pipe Line No. 1

A contract for cleaning and cement mortar lining approximately 14.4 miles of San Joaquin Pipe Line No. 1 between Cashman Creek and Coffee Road was awarded July 26, 1954. Work under the contract was started August 4, 1954, and completed December 14, 1954. Payments under the contract totaled \$319,160.22.

This contract constituted a portion of the work of reconditioning San Joaquin Pipe Line No. 1 which was started and continued with similar contracts during the previous two fiscal years. As a result of the work between Cashman Creek and Coffee Road the capacity of the pipe line was increased from 70 to approximately 74 million gallons daily.

#### **Maintenance Work at O'Shaughnessy Dam**

The ladder wells giving access to the operating chambers of the outlet system of the O'Shaughnessy Dam and the drains from the chambers were cleaned, mechanical equipment in the Dam was painted, repairs made on an outlet valve and its guard gate, outlet conduits were inspected, cleaned and repaired, and directional signs were painted to indicate the routes to operating chambers and galleries. While O'Shaughnessy Dam appears to be a solid monolith, there are actually many intersecting passageways in it for access and for drainage. The arrangement of the pasageways is confusing even to those reasonably familiar with the Dam.

#### **Cherry River Project**

The fiscal year saw the greatest progress toward completion of the Cherry River Project since the start of construction work.

The principal contract under which the work is being carried on is for the placement of 7.5 million cubic yards of earth and rock fill in the main structure, of which over 4 million cubic yards had been placed by the end of the fiscal year. When it is recalled that the Great Pyramid of Cheops has a volume of 3.4 million cubic yards, it can be seen that this year's work at Cherry Valley represents well over the equivalent of the construction of one

of the Seven Ancient Wonders of the World. The fill reached a height of 185 feet as of July 1, 1955, leaving 145 feet to be placed before the crest of the dam is reached.

A contract for the construction of the outlet works and spillway for the dam, in the amount of \$824,258.00 was let on May 5, 1955. The work consists of placing the steel lining in the outlet tunnel; installing three 90-inch butterfly valves and two 66-inch hollow jet valves at the downstream end of the outlet tunnel; completing the intake tower at the upstream end; concreting of the spillway and construction of a bridge across the spillway. This work is to be completed by July 1, 1956; however, earlier dates are established for completion of portions of this work in order to allow use of the reservoir for storage of water during the spring run-off period in 1956.

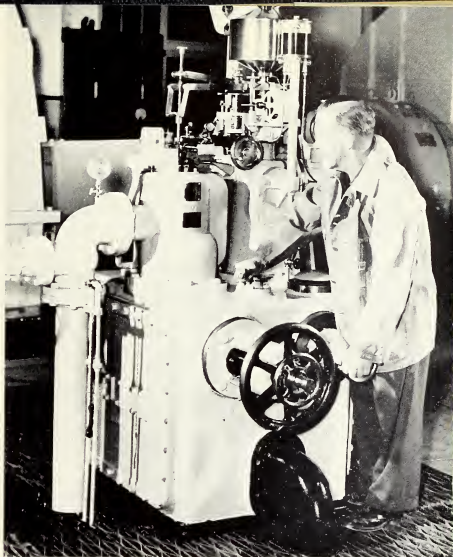
A contract was awarded on June 22, 1955, for the removal of timber from about 1,550 acres of the reservoir area. in the amount of \$366,666.00; the work to be completed in time for the storage of water in 1956.

In accordance with contract provisions between the City, the Modesto and Turlock Irrigation Districts, and the Corps of Engineers, United States Army, for the control of floods on the Tuolumne River, payments totaling \$1,109,460.49 were made by the Federal Government during the fiscal year 1954-55. Payments made by the Federal Government to the City as of June 30, 1955 total \$8,222,810.72.

#### **Hetch Hetchy Power Division**

Gross revenue from the sale of electric energy during the fiscal year 1954-55 was \$4,526,000, compared with \$4,290,000 in 1953-54, an increase of 5.5%.





The governors of the turbines at the power house are vital pieces of equipment. They not only regulate the power load the turbines take but act as safety devices in case of unexpected changes in water flow.

The following two tables give the comparative sales of energy for this and the previous fiscal year in dollars and in kilowatt hours:

**Comparative Gross Revenue Received from the Sale of Electric Energy**

**For Fiscal Years 1954-55 and 1953-54**

Customer	1954-55	1953-54
Municipal Accounts:		
Municipal Railway . . .	\$ 706,000	\$ 716,000
Street Lighting . . . .	441,000	437,000
Airport . . . . .	249,000	186,000
All Other . . . . .	935,000	860,000
Modesto and Turlock Irrigation Districts . .	842,000	651,000
Permanente Cement Company . . . . .	1,094,000	1,091,000
Kaiser Aluminum & Chemical . . . . .	75,000	53,000
Riverbank Ordnance Plant	104,000	231,000
All Other . . . . .	80,000	65,000
<b>Total . . . . .</b>	<b>\$4,526,000</b>	<b>\$4,290,000</b>

**Comparative Energy Consumption by Customers in Kilowatthours**

**For Fiscal Years 1954-55 and 1953-54**

Customer	1954-55 KWH	1953-54 KWH
Municipal Accounts:		
Municipal Railway . . .	74,800,000	75,800,000
Street Lighting . . . .	33,900,000	33,800,000
Airport . . . . .	30,800,000	21,400,000
All Other . . . . .	67,000,000	60,100,000
Modesto and Turlock Irrigation Districts . .	203,400,000	157,800,000
Permanente Cement Company . . . . .	141,900,000	141,400,000
Kaiser Aluminum & Chemical . . . . .	12,200,000	7,700,000
Riverbank Ordnance Plant	7,600,000	22,700,000
All Other . . . . .	9,400,000	17,100,000
<b>Total . . . . .</b>	<b>581,000,000</b>	<b>537,800,000</b>

Revenue derived from the sale of energy to the City's municipal departments increased 6% over last year. Although the combined revenue from Street Lighting and the Municipal Railway remained substantially unchanged, sale to the San Francisco International Airport increased 34% and that to the aggregate of all remaining City accounts increased over 8%.

There was an increase in revenue from sale of energy to the Modesto and Turlock Irrigation Districts of 13% over 1953-54, making it necessary for the City to purchase some supplemental power and energy from the Pacific Gas and Electric Company to supply this load.

Combined revenue from the sale of energy to the Kaiser Aluminum and Chemical Corporation and to the Permanente Cement Company increased about 2% as compared to 1953-54.

#### **Utilities Engineering Bureau Municipal Railway Engineering**

Work continued during the year on the design and preparation of plans and specifications for rehabilitation of Municipal Railway properties. In addition plans and specifications were prepared for changes to the facilities as made necessary by the State's Freeway construction program.

The construction work carried on during the fiscal year was financed principally from the 1947 Municipal Railway Bond Fund, funds appropriated by the Board of Supervisors for the rehabilitation of the cable car system as approved by the voters in June 1954, and from funds made available by the State for changes on account of Freeway construction.

#### **Rehabilitation of 24th and Utah Garage**

Work on the rehabilitation of the

24th and Utah Garage was completed during this fiscal year. This work was started in last fiscal year. In addition to the reconstruction of the garage under the prime contract, contracts were let for painting the shop floor, furnishing and installing steam heated degreasing tanks and for reconstructing the roof on the west bay. All work was completed on April 27, 1955.

#### **Track Reconstruction**

The installation of track curves and pavement at San Jose Avenue and Ocean Avenue was started in the last fiscal year and was completed on July 11, 1954. This track work will greatly reduce the time consumed in the pulling in and out of the Geneva Carhouse.

#### **Relocation of Municipal Railway Facilities To Permit Freeway Construction**

The overhead feeders on Sixth Street between Bryant and Harrison Streets were removed and installed underground to permit construction of Bayshore Freeway at this location.

The trolley coach overhead on 13th Street and South Van Ness Avenue, 13th Street and Folsom Street, and 13th Street and Bryant Street were rearranged to eliminate conflicts with the construction of the 13th Street Freeway.

#### **Conversion of 15 P.C.C. Cars to Single End One-man Operation**

Fifteen of the older type PCC cars were converted to single end one-man operation. These cars were originally designed for double end two-man operation. They will be used on the "K" and "L" lines where terminal loops are available.

#### **Rehabilitation of Cable Car System**

In June 1954 the voters approved the expenditure of \$855,820 plus the proceeds of the sale of the California and Hyde Street Cable House for the

rehabilitation of the cable car system under Plan "B". The State Legislature ratified this in January 1955 and preparation of plans and specifications for the construction work was started.

### **Airport Engineering**

The opening of the new San Francisco International Airport on August 27, 1954 saw the culmination of many years of intense activity on the part of the Utilities Engineering Bureau, although many items of construction work were completed after that date, such as work on the concourses, and on the airmail and cargo buildings, as well as completion of parking aprons, roadways, street lighting and other related work.

### **Financing**

The Federal Government through the Civil Aeronautics Administration completed all grant payments, amounting to \$5,299,004.88. An additional Federal grant has been made for \$228,200.00 for the partial reconstruction of runways, removal of obstructions to navigation, and for land which had been purchased for airport expansion and for protection of runway approaches.

### **Construction**

Expenditures during the fiscal year for construction performed during the period were \$1,012,354.41, of which 92% was for the completion of the concourses, airmail and cargo building, and for the balance of construction which had been started during the previous fiscal year on aprons, roads, street lighting and related work. Most of the balance of the money was expended for landscaping the new terminal area, moving facilities to the new control tower, and for improvements to the airport electrical distribution system.



A firm hand and a thorough knowledge of the controls is needed to operate the complicated switch board at Moccasin Power House. This ingenious piece of machinery handles all the power by remote control that flows through the plant.

During the year construction was started on the airport sewage treatment plant and on improvements to the power supply, by replacing overloaded electrical cables serving the United Air Lines and Pan American World Airways maintenance bases.

**FISCAL YEAR 1954-1955  
HETCH HETCHY WATER SUPPLY, POWER AND  
UTILITIES ENGINEERING BUREAU**

**What We Received:**

By Transfer from S. F. Water Dept. for Standby and Purchase . . . . .	\$ 4,030,000
Revenue from Sale of Power . . . . .	4,526,289
Other Revenue . . . . .	63,216
Prior Year's Surplus . . . . .	169,371
<b>Total Receipts . . . . .</b>	<b>\$ 8,788,876</b>

**Where Money Went:**

Salary and Wages including Retirement, Sickness and Industrial Compensation Benefits . . . . .	\$ 1,033,869
*Miscellaneous . . . . .	2,143,608
Taxes . . . . .	20,709
Bond Interest . . . . .	1,662,473
Bond Redemption . . . . .	3,243,121
Reconstruction and Replacement . . . . .	419,552
Additions and Betterments . . . . .	97,562
<b>Total Expenditures . . . . .</b>	<b>\$ 8,620,894</b>
Transferred to Surplus . . . . .	167,982
	<b>\$ 8,788,876</b>
*Contractual Services . . . . .	\$ 51,751
Material and Supplies . . . . .	71,722
Water Rights and Damage Claims . . . . .	20,949
Fee to U. S. Government . . . . .	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line . . . . .	1,963,659
Insurance . . . . .	5,527
	<b>\$ 2,143,608</b>



## RECEIPTS

- (A) Revenue from Sale of Power—51.5%
- (B) Other Revenue—0.7%
- (C) By Transfer From San Francisco Water Department—45.9%
- (D) Prior Surplus—1.9%



## EXPENDITURES

- (A) Bond Redemption—36.9%
- (B) Miscellaneous—24.4%
- (C) Taxes—0.2%
- (D) Salaries, Wages and Benefits—11.8%
- (E) Additions, Betterments—1.1%
- (F) Reconstruction—4.8%
- (G) Surplus—1.9%
- (H) Bond Interest—18.3%

# Other Bureaus

## BUREAU OF PUBLIC SERVICE

Virgil Elliot



Matters relating to public relations and public information are handled by this Bureau, which has its central office in the City Hall. This includes the preparation of the annual report for the Public Utilities Commission, pamphlets, radio scripts, press releases, motion pictures, and other methods of informing the public about all the utilities, their operations and physical aspects. An important function is coordinating investigations of complaints and expediting the servicing thereof. Surveys and recommendations are made for effectuation of economies in operations and improved employee relations. Very frequently appearances are made before public agencies and private organizations to tell the story of the utilities. A director, two assistant directors and a clerical assistant comprise the staff.

## BUREAU OF ACCOUNTS

George Negri



The financial affairs of all the utilities are supervised and coordinated by the Bureau of Accounts. Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses of budget requests, supplemental appropriations and transfers of funds. Studies also are

made for determination of financial policy regarding depreciation of physical properties and proper rate schedules. The Bureau directs the auditing and accounting functions in the accounting sections of the utilities departments. Figures prepared by this Bureau reveal that properties under the jurisdiction of the Public Utilities Commission had an evaluation, as of June 30, 1955, of \$315,955,531, with reasonable depreciation of \$5,550,375 allowed for the fiscal year 1955-56. Net budgets approved by the Commission for 1955-56 totaled \$49,780,000.

## BUREAU OF PERSONNEL AND SAFETY

Paul Fanning



In regard to personnel matters, this Bureau processes employments, terminations, transfers and leaves of absence of all employees for all the utilities. Complete personnel records of all employees are maintained at the Bureau's office at 901 Presidio Avenue. Important safety functions include training of Municipal Railway platform workers, processing data for safety awards, compiling reports on accidents and injuries, recommending preventive measures to eliminate accidents and taking part in city traffic surveys as regards safety practices. Once separate bureaus, the personnel and safety functions were combined in 1947 under one director. Bureau records show there were 3,852 employees in all the utilities as of June 30, 1955. This was a slight increase over the previous fiscal year and reflects, in part, new positions at the new San Francisco International Airport terminal.



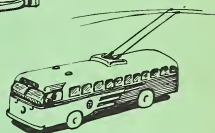
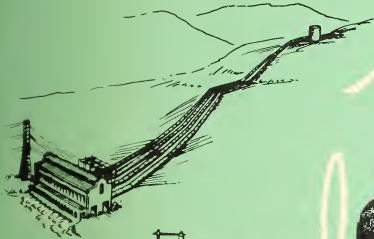
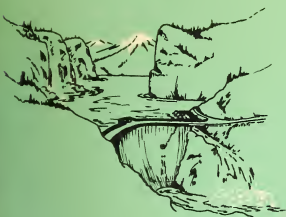




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San Francisco Public Utilities Commission  
1933-1956

Annual Report



HON. GEO. CHRISTOPHER  
Mayor of San Francisco



JAMES H. TURNER  
Manager of Utilities

PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO

November 1, 1956



SUBJECT: 1955-56 Annual Report

Hon. George Christopher  
Mayor of the City and County  
of San Francisco  
City Hall, San Francisco

My dear Mr. Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual condensed report covering activities and operations for the period beginning July 1, 1955 and ending June 30, 1956.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway of San Francisco; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco International Airport and the Bureau of Light, Heat and Power. In addition, there are three service bureaus comprising the Bureau of Accounts, Bureau of Personnel and Safety, and the Bureau of Public Service.

A summary of the activities and operation of these various departments will be found in this report.

The Commission held 52 regular and special meetings during the year. A budget was adopted by the Commission for the year 1956-57 in the amount of \$74,071,175 and supplemental budgets totaled \$366,973.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent an appraised value of \$315,955,350. Truly a significant figure attesting to the wealth and progress of our city.

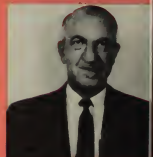
Respectfully submitted,

*Joseph Martin, Jr.*

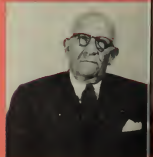
President  
Public Utilities Commission



JOSEPH MARTIN, JR.  
President  
Public Utilities Commission



DANIEL F. DEL CARLO  
Vice-President  
Public Utilities Commission



EDWARD B. BARON  
Commissioner  
Public Utilities Commission



DONALD A. CAMERON  
Commissioner  
Public Utilities Commission



OLIVER M. ROUSSEAU  
Commissioner  
Public Utilities Commission

## PUBLIC UTILITIES COMMISSION

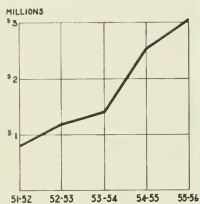
The Public Utilities Commission of the City and County of San Francisco was established in 1932 under provisions of the present Charter. Its five members are appointed by the Mayor for four years, the terms being staggered. The members elect their own president and vice-president and hold weekly public meetings to transact business of the municipally owned utilities, namely: the International Airport, Municipal Railway, Water Department, Hetch Hetchy Water Supply, Power and Utilities Engineering, and Light, Heat and Power. In addition, there are three service bureaus: Accounts, Personnel and Safety, and Public Service. The department and bureau heads are responsible to the Manager of Utilities, who in turn is responsible to the Commission.

OPPOSITE PAGE—Photo of Lake Lloyd in the Sierra shows first impounding of water behind new \$14,200,000 Cherry Valley Dam, important addition to city's water and power system.

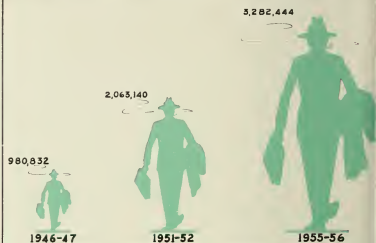




## AIRPORT REVENUE



## AIRPORT PASSENGER TRAFFIC



## AIR SHIPMENTS (POUNDS)





# International Airport

THE STORY of San Francisco International Airport continued in 1955-56 as one of amazing growth.

The ultra-modern new terminal facility, dedicated in 1954, already was bulging at the seams.

Passengers in and out numbered 3,282,444, an increase of 14 per cent over the prior fiscal year. Air shipments of mail, express and freight shot up to 109,704,157 pounds. Nearly every point on the globe could be reached by the 21 airlines serving the city-owned facility.

Ranking among the world's finest, this air terminal was designed to accommodate more than 3,000,000 passengers annually, and may be expanded to handle up to 10,000,000. To make possible this expansion, and to adapt the Airport to handle huge jet airliners, a \$25,000,000 bond program was advanced during the fiscal year.

San Franciscans have fixed capital worth more than \$50,000,000 in their Airport, where employment is provided for 11,000, mostly by the airlines, and where the annual payroll amounts to about \$65,000,000.

Construction of the new terminal and of matching field operational facilities has resulted in a tremendous gain in Airport operating revenue, as

shown by the chart on the opposite page. Bonded indebtedness is being retired at a rapid rate and it appears that soon the Airport can operate without tax support.

There is no accurate yardstick for measuring the many ways in which the city Airport has helped boost the local economy, as well as provide for the safety and convenience of airborne travelers.

During 1955-56 a study was started to locate sites for heliports in San Francisco and efforts were being made to obtain an inter-city helicopter passenger service operating out of the Airport. Numerous bids were extended to encourage additional foreign airlines to come into San Francisco. The Military Air Transport Service shifted from Travis to International Airport for much of its overseas operations. Bids were invited to construct a hotel facility with private capital on Airport property.

As plans were mapped for Airport expansion, city officials were thankful for the far-sighted thinking that caused the terminal to have been designed, in every aspect, for future growth. Runways, too, had been laid out to permit extensions on existing land or on tidelands to be filled in and reclaimed from San Francisco-Oakland Bay.

The San Francisco policy of municipal ownership of its airport expresses the confidence of its citizens in the future of air transportation. Inherently, they have realized the tremendous benefits to be derived from world trade and commerce.

ABOVE—More than 3,280,000 revenue passengers were in and out of San Francisco International Airport last fiscal year, breaking all records.

UPPER CENTER—Kangaroo air cargo gets ticketed by pretty TWA hostesses.

LOWER CENTER—Filming of "The Lineup" television sequence was for network release in fall of 1956.

BELOW, LEFT—Secretary of State Dulles arrives at International Airport.

BELOW, CENTER—San Francisco's gracious first lady, Mrs. George Christopher, and Mayor Christopher lunch at International Airport with President Sukarno of Indonesia who visited the United States at the invitation of President Eisenhower.

BELOW, RIGHT—Stars Eddie Fisher and Debbie Reynolds get happy welcome upon Airport arrival.

## FISCAL THUMBNAIL

### RECEIPTS

Revenues	\$3,059,718
Prior Year's Surplus	425,000
Taxes	795,771

\$4,280,489

### EXPENDITURES

Operations	\$1,756,861
Bond Costs	2,300,152

\$4,057,013

SURPLUS \$ 223,476

# Municipal Railway

THE MUNICIPAL Railway's fleet of 1,150 vehicles carried nearly 200,000,000 passengers in 1955-'56, traversing 520 round-trip miles of city streets and making about 28,000,000 miles on 63 lines.

Passengers averaged about 650,000 on week days, with 860 vehicles in use during the afternoon week-day peak. All-night "owl" service was furnished on 15 lines that fully cover the city.

The Municipal Railway is a big operation, having a \$23,820,788 budget last fiscal year. Although operating economies saved more than a million dollars, tax support still was required, as the official city policy calls for adequate service when needed by the people even if it means a subsidy from tax sources. The 1955-'56 tax subsidy was 12 per cent of the total budget.

## TRANSIT VS. AUTOS

*The capacity of a single traffic lane per hour is:*

1,575 passengers in autos  
9,000 passengers in buses  
13,500 passengers in streetcars

*The oft-asked question is whether the primary purpose of streets is to move vehicles or people.*



Under a lease plan, the Railway last fiscal year received 170 new 48-passenger diesel coaches. The entire present fleet of old motor buses eventually will be replaced by 440 leased buses and, significantly, it is proving more economical to lease than to own. For that reason a similar lease plan is being worked out to replace the 133 "iron monster" streetcars now on hand with modern streamliners.

Arrival of the new diesel coaches made possible four new express routes, operating in part via free-ways, providing faster service to the Outer Mission, Parkmerced, Richmond and Marina districts. Pleased patrons took time to write and phone their approval.

Construction work was speeded during the year on the cable car rehabilitation program as authorized by San Francisco voters, the work being financed by \$855,000 from the city's general fund and \$175,000 from the projected sale of the old California-Hyde carhouse.

Railway passenger volume has steadily declined during the past decade in about the same proportion as automobile registration in San Francisco has gained. But the Railway provides as much service today as it did 10 years ago, service above the average furnished in cities of comparable size.

The Railway urges San Franciscans to ride transit for various reasons, among them to avoid traffic jams. The average Muni vehicle load means 36 fewer passenger autos will be crowding the streets.

## FISCAL THUMBNAIL

### RECEIPTS

Revenues	\$20,470,119
Other Income	51,478
Prior Year's Surplus	743,078
Taxes	3,102,691

\$24,367,366

### EXPENDITURES

Platform Wages	\$ 8,711,014
Bond Redemption	1,599,000
Other Expenses	13,029,638

\$23,339,652

### SURPLUS

\$ 1,027,714

LEFT—Contrast of old and new in transit is depicted at Market and Powell, showing beloved cable car on turntable and PCC-type streamliner. Municipal Railway plans to lease more PCC cars.

CABLE CAR    2-MAN ST. CAR    1-MAN ST. CAR    TROLLEY COACH    MOTOR COACH



# COST OF OPERATION PER MILE

RIGHT—First of new 48-passenger diesel motor coaches to replace old fleet of 440 buses are shown in front of City Hall. Total of 170 delivered in 1955-56, many used for speedy express routes.

BELOW—Utilities Manager James H. Turner inspects progress on new cable car turntable work at Beach and Hyde streets, part of million-dollar cable car rehabilitation and consolidation program authorized by the voters in 1954. When job is done, San Francisco will have three permanent cable car lines.





ABOVE—Snow pack in the high Sierra on Dana Fork of Tuolumne River provides runoff in spring months to help fill Hetch Hetchy Lake.

BELOW—Air view of new Cherry Valley Dam taken on dedication date in October, 1955. Dam has earth core and rock facing.





# Hetch Hetchy Project

**H**IGHLIGHT of 1955-56 in the Hetch Hetchy Project, a self-supporting utility, was completion of the Cherry Valley Dam, which has 268,000 acre feet of water storage capacity.

Of equal significance was the approval given by the voters to a bond issue of \$54,000,000 to build an 81,000-kilowatt powerhouse on the lower Cherry River (made possible by the new dam) and a 54,000-kilowatt plant on the Tuolumne River below O'Shaughnessy Dam. Added to existing power facilities, these plants will increase Hetch Hetchy's ultimate capacity to 220,750 kilowatts.

In addition to power, the Hetch Hetchy Project has a present water delivery capacity to San Francisco of 163,000,000 gallons daily, the ultimate being at least 400,000,000 gallons daily when future facilities are added. Revenues from water and power sales pay all costs of operations, maintenance, additions and betterments, and debt retirement.

The Hetch Hetchy Project is being built under a long-established master plan for the full develop-

## FISCAL THUMBNAIL

RECEIPTS	
Revenues	\$8,613,400
Prior Year's Surplus	122,647
	<b>\$8,736,047</b>
EXPENDITURES	
Operations	\$2,743,689
Bond Costs	4,735,300
Betterments	486,960
	<b>\$7,965,949</b>
<b>SURPLUS</b>	<b>\$ 770,098</b>

ment of the water resources of the Tuolumne River in cooperation with the Modesto Irrigation District, the Turlock Irrigation District and the U. S. Army Engineers. San Franciscans have a bond investment of \$106,100,000 in the Project, exclusive of the \$54,000,000 power bond issue.

Completion during the fiscal year of the "in place" cement mortar lining of 46½ miles of the San Joaquin Pipe Line No. 1 increased that line's daily capacity by 14,000,000 gallons. The \$1,167,000 project, paid for out of earnings, took three years.

## HETCH HETCHY DAMS AND RESERVOIRS:

	Completed	Cost	Acre Feet	Watershed
O'Shaughnessy	1923 (enlarged 1938)	\$16,000,000	360,000	459 Sq. Mi.
Eleanor	1918	600,000	27,000	79 Sq. Mi.
Cherry Valley	(1956)	14,200,000 (Est.)	268,000	114 Sq. Mi.
New Don Pedro	—	—	1,200,000	—

## HYDRO-ELECTRIC POWER PLANTS:

	Completed	Cost	Kilowatts	KWH Annually
Moccasin	1925	\$12,900,000	82,000	510,000,000
Early Intake	1918	400,000	3,750	25,000,000
Canyon	(1960) Est.	30,200,000	54,000	360,000,000
Cherry	(1964) Est.	23,800,000	81,000	470,000,000

## OTHER HETCH HETCHY FACILITIES:

Aqueduct system, completed at various dates, cost of \$86,000,000; water rights, lands, buildings and general equipment, \$7,100,000.

# Water Department

WATER RATES in San Francisco are 10 per cent lower than when the citizens acquired their own water system in 1930, and there never has been a case of illness traced to the water supply. Never has there been any water rationing or any subsidization of the Water Department.

Water from Hetch Hetchy and Bay Area sources was distributed to city and neighborhood communities on the average of 139,100,000 million gallons daily in 1955-56. City consumers used 91,300,000 gallons per day. Total sales brought in \$13,788,373.

Consumption, as measured by consumer's meters, increased 3.8 per cent over the previous fiscal year. New service installations totaled 1,466.

Many additions and betterments were in progress, including a new south basin for the Sunset Reservoir, the Sunset Supply Line, the Hillsborough Tunnel, Crystal Springs Pipe Line No. 2, and numerous other lines, feeder mains and cross connections.

Two new fluoridation stations were completed during the year, one at Crystal Springs Dam, the other on the San Andreas No. 1 line. Now all water leaving Peninsula reservoirs is fluoridated.

What about San Francisco's future water supply? Water Department engineers made a study and re-

ported that the presently planned capacity of 450,000,000 gallons daily from Hetch Hetchy and Bay area sources must be supplemented from additional sources by 1997. Authorities are giving serious consideration to future water requirements and how they can be fulfilled.

## FISCAL THUMBNAIL

### RECEIPTS

Revenues .....	\$13,346,015
Prior Year's Surplus .....	327,115
	<b>\$13,673,130</b>

### EXPENDITURES

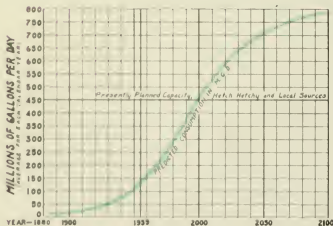
Operations .....	\$ 8,683,000
Bond Costs .....	2,850,615
Betterments .....	1,626,043

	<b>\$13,159,658</b>
<b>SURPLUS .....</b>	<b>\$ 513,472</b>

LEFT, ABOVE—New Sunset Supply pipeline adds to capacity for delivering water to city residents from Crystal Springs Lakes storage reservoirs.

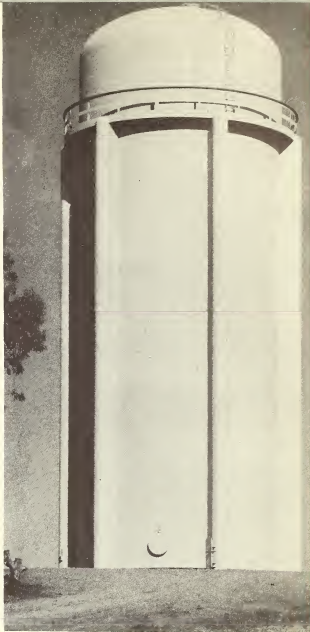
RIGHT, ABOVE—Esthetic quality is provided in new McLaren Park standpipe, water supply reservoir in southeast section of city.

## PAST AND FUTURE WATER CONSUMPTION



LEFT, CENTER—Casey Quarry Portal to 5,100-foot long Hillsborough Tunnel being driven to transport water into San Francisco. Estimated cost of completed 90-inch diameter tunnel is \$1,366,830. Excavation work was about half done as of June 30, 1955.

BELOW—Planting of new walnut trees on 60 acres of East Bay land owned by the Water Department boosted to 200 acres the city's walnut operations. A tenant planted city-approved trees at his expense and will care for them until they start bearing seven years hence in return for growing beans between the walnut rows. Orchard is situated over the Sunol filter-gravels which produce about 5,000,000 million gallons of water daily for San Francisco.







# Light, Heat and Power

THE CITY's street lights had increased to 28,239 by June 30, 1956. Of the total, 7,824 were owned by the city, 18,552 by Pacific Gas and Electric Company and 1,863 were jointly owned. The city is gradually acquiring more of the street lights with a resultant saving on operating costs.

Besides the design, construction and operation of the street lighting system, functions of the Bureau include purchasing of utility services and furnishing of heat and illumination engineering services for all city departments.

During the year Bureau technicians designed a new floodlighting system at the Margaret S. Hay-

ward Playground, Gough street and Golden Gate avenue, making possible night tennis and softball for residents of that neighborhood.

A novel and successful project in conjunction with the Water Department was development of an electronic method for preventing corrosive deterioration of water pipelines by "stray" electrical currents.

Other work included completion of design-planning for the city's fluoridation plants, installation of an audio electronics detection system at the Youth Guidance System, and designing of new lighting for half a dozen galleries at the M. H. De Young Memorial Museum.

Other Bureau activities entail interpretation and application of the various gas and electric rate schedules, physical surveys of plant operation and costs for various city departments, and cooperation with the Police Department in installing traffic safety lights.

LEFT, ABOVE—Bureau furnished this ceiling lighting design for Oakes Ante Room in De Young Museum.

RIGHT, ABOVE—This view of West Portal avenue shows combination poles used for both trolley wires and street lighting.

LEFT, CENTER—New electronics sound security system at Youth Guidance Center was designed by Bureau technicians.

RIGHT, CENTER—Bureau Engineers Thomas Bris-tow, left, and Ray Perotti, test motor installation at Central Pumping Station.

LEFT, BELOW—Experts in Bureau designed and built this high voltage direct current device for testing of street lighting cable. Intersection is Ortega street and Fortieth avenue.

## FISCAL THUMBNAIL

RECEIPTS	
Revenues .....	\$2,506,491
Taxes .....	1,164,176
	<b>\$3,670,667</b>
EXPENDITURES	
Operations .....	\$3,635,347
Betterments .....	35,320
	<b>\$3,670,667</b>

BELOW—City's lights sparkle in night view taken from atop Twin Peaks.



# Utilities Executive Staff



**FREDERICK B. BUTLER**  
Manager  
*International Affairs*



**CHARLES D. MILLER**  
General Manager  
*Municipal Railway*



**HARRY E. LLOYD**  
Manager and Chief Engineer  
*Hot & Hotby Water Supply,  
Power, and Utilities  
Engineering Bureau*



**GEORGE W. PRACY**  
General Manager and  
Chief Engineer  
*Water Department*



**B. A. DEVINE**  
Manager and Chief Engineer  
*Light, Heat and Power*



**GEORGE NEGRI**  
Director  
*Bureau of Accounts*



**PAUL FANNING**  
Director, Bureau of  
*Personnel and Safety*



**VIRGIL L. ELLIOTT**  
Director  
*Bureau of Public Service*



**ROBERT J. MACDONALD**  
Secretary  
*Public Utilities Commission*



**THOMAS M. O'CONNOR**  
Utilities Counsel

## Special Bureau Functions

### ACCOUNTS

THE FINANCIAL affairs of all the utilities are supervised and coordinated by this Bureau.

Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses of budget requests, supplemental appropriations and transfers of funds. Studies also are made for determination of financial policy regarding depreciation of physical properties and proper rate schedules. The Bureau directs the auditing and accounting functions in the accounting sections of the utilities departments.

### PERSONNEL & SAFETY

IN REGARD to personnel matters, this Bureau processes employments, terminations, transfers and leaves of absence of all employees for all the utilities. Complete personnel records of all employees are maintained. Important safety functions include training of Municipal Railway platform work-

ers, processing data for safety awards, compiling reports on accidents and injuries, recommending preventive measures to eliminate accidents and taking part in city traffic surveys as regards safety practices. Once separate bureaus, the personnel and safety functions were combined in 1947 under one director.

### PUBLIC SERVICE

MATTERS relating to public relations, employee relations, and public information are handled by this Bureau. This includes the preparation of this annual report for the Public Utilities Commission, pamphlets, radio scripts, press releases, motion pictures, and other methods of informing the public about all the utilities, their operations and physical aspects. An important function is coordinating investigations of complaints and expediting the servicing thereof. Surveys and recommendations are made for effectuation of economies in operations and improved employee relations.

# Utilities Summary

CUSTOMER SERVICES	1955-56	1954-55
Airport Passengers .....	3,282,444	2,879,366
Air Shipments (lbs.) .....	109,704,157	90,430,377
Transit Passengers .....	198,049,970	203,887,807
Kilowatt Hours Consumed .....	562,100,000	581,000,000
Water Consumption (gal. daily) .....	139,096,620	135,685,690

REVENUES		
Sale of Electric Energy .....	\$ 4,516,000	\$ 4,526,000
Sale of Water .....	13,788,373	13,423,470
Transit Fares and Carcards .....	20,470,119	21,041,686
International Airport .....	3,059,718	2,512,666
Heat, Light and Power .....	2,506,491	2,377,131

TAX SUBSIDY		
Municipal Railway .....	\$ 3,102,691	\$ 2,079,280
International Airport .....	798,142	1,893,533
Heat, Light and Power .....	1,164,176	1,246,037

BOOK VALUE		
Hetch Hetchy .....	\$122,635,633	\$121,807,448
Water Department .....	98,907,626	97,573,147
Municipal Railway .....	41,581,605	43,112,667
International Airport .....	50,291,694	49,196,051
Light, Heat and Power .....	3,619,965	3,454,310
PUC Gen'l Office .....	14,448	13,916

TAXES PAID TO OUTSIDE JURISDICTIONS		
Water Department .....	\$ 703,050	\$ 656,215
International Airport .....	70,662	9,993
Hetch Hetchy .....	21,342	20,709

SALARIES & RELATED WAGE BENEFITS		
Municipal Railway .....	\$ 16,146,170	\$ 15,875,973
Water Department .....	2,766,947	2,614,406
Hetch Hetchy .....	1,116,304	1,033,869
International Airport .....	1,096,534	891,121
Heat, Light and Power .....	115,070	101,299

NUMBER OF EMPLOYEES		
Municipal Railway .....	2,763	2,855
Water Department .....	515	537
Hetch Hetchy .....	235	208
International Airport .....	166	138
Light, Heat and Power .....	17	17
PUC Gen'l Office .....	24	24
	<hr/> 3,720	<hr/> 3,779

*pk* San Francisco's  
Municipally Owned Utilities

Hotch Hotchy Water and  
Power Supply

International Airport

Water Department

Municipal Railway

Bureau of Light  
Heat and Power



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# annual report

*San Francisco Public Utilities Commission*

# annual report

1956-1957



JOSEPH MARTIN, JR.  
*President*

PUBLIC  
UTILITIES  
COMMISSION  
of the  
City and County  
of  
SAN FRANCISCO



DANIEL F. DEL CARLO  
*Vice-President*



GEORGE CHRISTOPHER  
*Mayor of San Francisco*



EDW. B. BARON  
*Commissioner*



STUART N. GREENBERG  
*Commissioner*



DON FAZACKERLEY  
*Commissioner*

BOARD OF SUPERVISORS

JOHN J. FERDON  
*President*

WILLIAM C. BLAKE  
JOSEPH M. CASEY  
HAROLD S. DOBBS  
CHARLES A. ERTOLA  
JAMES LEO HALLEY  
J. EUGENE McATEER  
FRANCIS J. McCARTY  
CLARISSA SHORTALL McMAHON  
JAMES SULLIVAN  
HENRY R. ROLPH



T. N. BLAND  
*Manager of Utilities*

ORGANIZATION AND STRUCTURE

The Public Utilities Commission of the City and County of San Francisco was established in 1932 under provisions of the Charter. Its five members are appointed by the Mayor for four years, the terms being staggered. The members elect their own president and vice-president and hold weekly public meetings to transact business of the municipally owned utilities, namely: the International Airport, Municipal Railway, Water Department, Hetch Hetchy Water Supply, Power and Utilities Engineering, and Light, Heat and Power. In addition, there are three service bureaus: Accounts, Personnel and Safety, and Public Service. Department and bureau heads are responsible to the Manager of Utilities, who in turn is responsible to the Commission.

THE COVER

Pulgas Water Temple, located on east shore of Crystal Springs Lake, San Mateo County. This classic structure marks the terminal of the 155-mile Hetch Hetchy aqueduct.

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ROBERT J. MACDONALD  
*Secretary*  
*Public Utilities Commission*



JAMES J. FINN  
*Executive Secretary to*  
*the Manager of Utilities*



THOMAS M. O'CONNOR  
*Utilities Counsel*

PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO

November 1, 1957

GENERAL OFFICE  
287 CITY HALL



SUBJECT: 1956-57 Annual Report

Hon. George Christopher  
Mayor of the City and County  
of San Francisco  
City Hall, San Francisco

My dear Mr. Mayor:

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A summary of the activities and operation of these various departments will be found in this report.

The Commission held 54 regular and special meetings during the year. A budget was adopted by the Commission for the year 1957-58 in the amount of \$76,498,742.00 and supplemental budgets totaled \$651,631.00.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent an appraised value of \$327,861,359.55. Truly a significant figure attesting to the wealth and progress of our city.

Respectfully submitted,

*Joseph M. ...*

President  
Public Utilities Commission



ABOVE—San Franciscans are getting 66 PCC-type streetcars to replace all remaining "iron monsters" on J, K, L, M and N lines. First streamliner, freshly decorated in Muni colors, is shown in St. Louis just before shipping. All 66 should be in service by early 1958 under lease plan similar to leasing arrangement for 440 new Mack diesel buses. BELOW—Contrasted is old-type cars shown on Sutter street in photo made 10 years ago. Old vehicles being retired date back to 1914.



# Municipal Railway

WITH EMPHASIS on economy and service, the Municipal Railway, during the fiscal year ended June 30, 1957, saw the leveling off of the costly passenger decline while maintaining a high level of rider service at a fare among the lowest in the nation.

The passenger decline had averaged some 5 per cent annually since the end of World War II, about the same ratio as the gain in automobile registrations in San Francisco. But the 142,219,916 fare-paying (revenue) passengers carried in 1956-57 represented a decline of only seven-tenths of one per cent from the prior year, which had one extra day (Feb. 29, 1956—the Muni carries 460,000 passengers on week days).



CHARLES D. MILLER  
General Manager  
Municipal Railway

The revenue picture last fiscal year (1956-57) followed the same pattern, the \$20,027,762 collected from fares and miscellaneous sources being a 1.1 per cent decline over 1955-56, much better than the average drop of from 4 to 5 per cent each year since 1945.

Officials attributed the "leveling off" to traffic congestion (causing more people to leave autos at home), new transit equipment, sound management, improved employee and public relations, and the greater public acceptance of transit today. Many people are finding public transit is safe and more economical.

The Muni continued to operate with a tax subsidy in line with the official policy calling for providing

## Types of Equipment

2-MAN STREET CARS

1-MAN STREET CARS

TROLLEY COACHES

MOTOR COACHES

CABLE CARS

TOTAL (or Average)

Max. Weekday Equipment Demand	Revenue Passengers Carried	Mileage	Miles Per Hour
46	12,156,112	1,844,002	9.15
49	9,246,587	1,774,549	10.09
310	54,215,721	9,175,785	8.41
433	60,422,412	13,999,127	9.91
19	6,179,084	367,899	4.77
857	142,219,916	27,161,362	9.18



RIGHT—As feature of "Ride the Muni Week," Olympic Swim Star Ann Curtis, now Mrs. Gordon Cuneo, kisses her husband goodbye as he boards bus. Under "Kiss-N-Ride" plan, Ann keeps the car for daytime use after driving Gordon to bus stop, thus there'll be fewer autos downtown to cause traffic congestion. Ann is holding their daughter, Susan.

RIGHT, BELOW—Stressed during "Ride the Muni Week," sponsored by PUC Bureau of Public Service, was priority use of public streets for moving people as opposed to vehicles. These 56 autos at Visitation Valley turnoff from Bayshore Freeway would be carrying 84 persons, figured at average of 1½ per car. That's not many more than the average 52.5 passengers carried by Muni vehicles which take up space equal to about two autos.



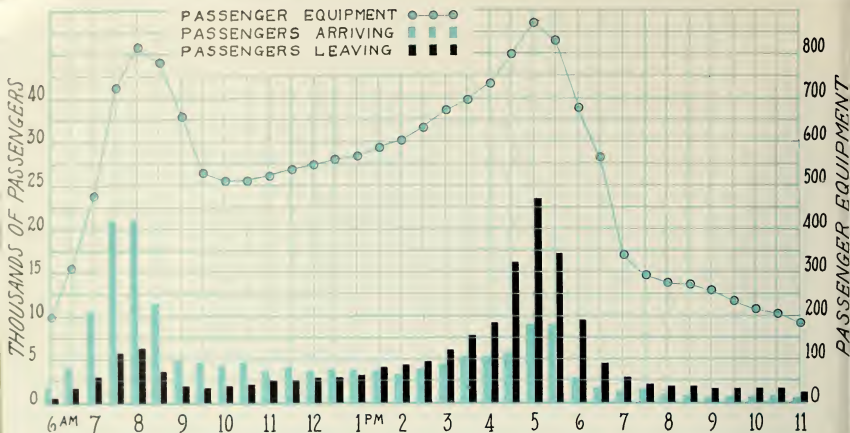
FISCAL YEAR	REVENUE PASSENGERS	% Change	VEHICLE MILES OPERATED	% Change	S. F. AUTO REGIS-TRATION	% Change
1947-48	216,788,454	-3.22	29,066,859	-3.31	189,397	+10.06
1948-49	206,024,429	-4.97	30,476,886	+4.85	203,110	+ 7.24
1949-50	187,940,600	-8.78	31,193,768	+2.35	218,669	+ 7.66
1950-51	182,536,653	-2.88	29,329,211	-5.98	237,574	+ 8.65
1951-52	178,056,771	-2.45	29,310,602	-.06	244,551	+ 2.94
1952-53	160,771,196	-9.71	30,553,894	+4.24	240,879	- 1.50
1953-54	153,336,856	-4.62	29,575,474	-3.20	244,038	+ 1.29
1954-55	147,599,470	-3.74	28,401,209	-3.97	243,422	- .25
1955-56	143,187,896	-2.99	27,568,380	-2.93	252,767	+ 3.84
1956-57	142,219,916	-.68	27,161,362	-1.48	254,277	+ .60



maximum of service at a minimum fare, the loss being made up from taxation. Tax subsidy last year was 14.5 per cent of the total budget of \$24,219,095.

A lease program for acquiring PCC-type streetcars was worked out during the year, assuring modern equipment for all 64 lines except, of course, for the beloved, historic cablecars. The cablecar renovation program neared completion during the year,

Revenue Passengers Per Mile	Revenue Per Mile	Income (Net) Per Mile	Net Income	Payment Accident Claims	Redemption of Bonds (Allocation)
6.59	\$ .95	—\$ .29	—\$ 539,690	\$128,025	\$ 97,711
5.21	.75	— .07	— 118,603		95,528
5.91	.84	.03	297,160	305,771	925,965
4.32	.61	— .16	— 2,306,364	384,199	472,329
16.80	2.43	— .80	— 294,270	174,134	7,467
5.24	\$ .75	—\$ .11	—\$2,961,767	\$992,129	\$1,599,000



Vehicles in Use; Railway Passengers Arriving and Leaving Downtown Area

during which Geary street streetcars were retired in favor of rubber tired equipment.

Most major cities last year had fares of 20 cents or more, compared to 15 cents in San Francisco. Twenty-cent fare cities included Baltimore, Buffalo, Chicago, Cincinnati, Cleveland, Fort Worth, Kansas City, Omaha, Philadelphia, Pittsburgh, Portland, Seattle, St. Louis and Washington, D.C.

Statisticians revealed that San Franciscans average 175 rides on the Muni per year, second only to New

Yorkers. Chicago ranked third. Each San Franciscan (averaged out) rides 33.35 miles annually on his transit system, the statistics showed.

As of the end of 1956-57, the Municipal Railway still had \$10,670,000 to pay on the \$20,000,000 bond issue voted in 1947 and which has made possible a

**BELOW**—Eighteen utilities employees with long service records are shown with PUC members and three department heads after receiving retirement certificates. Most were Muni operators.





ABOVE—Pretty Judy Weld, formerly "Miss San Francisco," sews on newly designed shoulder patch for 74th "Muni Man of the Month" award winner Joseph H. Balzac, No. 47 line operator, and hands him Safety Council membership ticket. Thus successful employee recognition program was started in 1950.

ABOVE, RIGHT—Newsmen and play actors ride first car to travel over new Hyde street leg of consolidated cablecar system, as cablecar rehabilitation program neared completion. New turntable was installed at Hyde and Beach streets.

vastly changed and improved transit system, acknowledged to be one of the most modern in the United States. The 1956-57 bond redemption payment was \$1,599,000.

Sizable economies have been effected in the conversions to modern vehicles and other facilities, with resultant savings in manpower costs. The change to one-man operation with leasing the 66 PCC-type cars, along with reduction of roadbed maintenance because of lighter equipment, saves about \$570,000 a year, to cite one example. And it is interesting to note that experience shows it is more economical to lease rather than own Muni rolling stock.

Although accident claims continued at a high rate chiefly because of higher court settlements, there was satisfaction in the fact that Muni accidents, despite traffic congestion, have been reduced by more than half in the past 10 years. The National Safety Council revealed that people riding on public transit are approximately 21 times safer than those traveling in autos.



These safety factors, along with other advantages of riding transit, were stressed in the first annual "Ride the Muni Week" during which it was emphasized that increased use of Muni vehicles is good for local business because:

1. It offers a low-cost solution to the growing problem of traffic congestion.
2. Shoppers, disgruntled over the traffic squeeze and the parking headache, aren't likely to be repeat buyers, and many will take their buying to a more convenient location, thus lessening the value of central business property.

During this special week results of a survey were made public, disclosing that a typical San Franciscan can save between \$30 and \$40 a month if he rides the Municipal Railway to work instead of using the family auto and paying to park it downtown while he works.

The annual Cablecar Bell Ringing Contest in Union Square turned out to be a festive event, with Gripman Albert Ward capturing the first place trophy.

#### BUDGET BRIEFS

RECEIPTS	
Revenues .....	\$20,237,823
Other Income .....	65,074
Prior Year's Surplus .....	1,134,602
Taxes .....	3,496,941
	\$24,934,440
EXPENDITURES	
Platform Wages .....	\$ 8,726,588
Bond Costs .....	1,814,418
Other Expenses .....	13,104,931
	\$23,645,937
SURPLUS .....	\$ 1,288,503





# International Airport

ACTIVITIES at San Francisco International Airport during 1956-57 were centered around preparing for handling of jet airliners and for expansion of nearly all Airport facilities as well as providing for a self-supporting fiscal operation.

San Franciscans voted 4 to 1 in favor of a \$25,-000,000 bond issue to accomplish these objectives. Considerable headway was made in getting the expansion program underway. In cooperation with airlines, Airport officials developed a fiscal program to



**BELFORD BROWN**  
Manager  
International Airport

provide that the Airport should be paying its own way by 1960-61. (Actually the Airport will not require a tax subsidy in 1957-58 due to a sizable surplus carryover from 1956-57, but some tax support probably will be needed for the next two or three years.)

Now the fifth ranking major hub of domestic and international air traffic in the world, San Francisco's municipally-owned Airport continued to show a phenomenal growth last fiscal year in passenger and freight volume with a resultant surge in operations revenue. More than 10,000 passengers were accommodated daily, a gain of 1,100 per day over the previous year. Thirteen scheduled domestic air carriers conducted 354 arrivals and departures daily; the total number (including corporate and private aircraft) being more than 600 a day.

Airport and PUC officials supported improved air services, such as the polar and great circle routes, and vigorously worked for a third non-stop carrier service between San Francisco and New York.

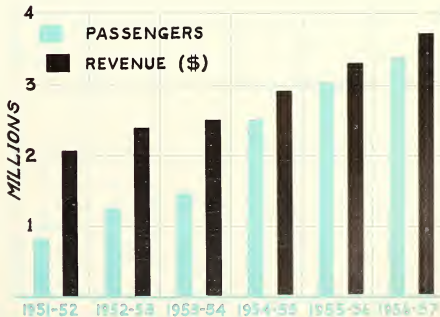
**LEFT**—Striking photo by Norm Merkel shows modern terminal facility at San Francisco International Airport as seen by arriving passenger.

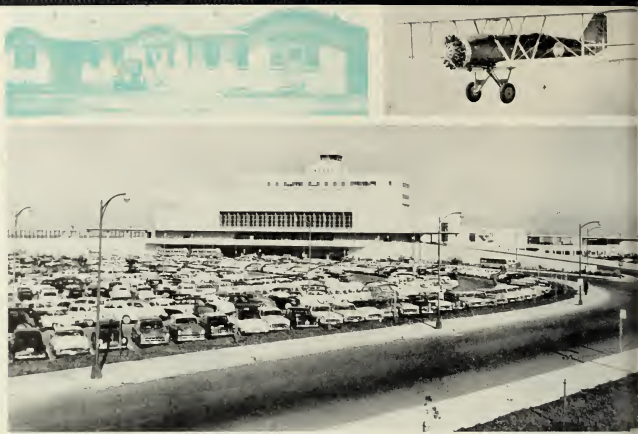


**ABOVE**—Hundreds accepted "open house" invitations and inspected terminal building facilities on Oct. 28 during "Tour Your Airport Day" occasion sponsored by the San Francisco Junior Chamber of Commerce's aviation committee. Attractive airline stewardess explains use of equipment in communications room. Visit to control tower was day's highlight.

The weight of air shipments, including mail, express and freight, increased last fiscal year to 124,897,199 pounds. This was a gain of 13.5 per cent over 1955-56. This phase of Airport operations is expected to increase right along with passenger volume as jet transports, capable of carrying up to 180 passengers and flying at nearly twice today's best airline speeds, take over in the aviation field.

Expansion plans involve almost every portion of the 3,722-acre airfield (to be enlarged to 4,487





LEFT, ABOVE—Harold Messersmith, superintendent of Airport operations, cuts cake commemorating 30th anniversary of the Airport as well as Messersmith's own 30th year with the Airport.

TOP, CENTER — Original administration building at Airport as it appeared shortly after dedication in 1927. Known then as Mills Field, the small "cow pasture" airport with its dirt runway accommodated 87 passengers and developed a revenue of \$15 during its first month in business.

ABOVE, CENTER—Study in contrasts is provided by modern new multi-million dollar terminal facility which can be expanded

to accommodate 10,000,000 passengers annually. Passenger traffic last fiscal year was 3,684,830, and revenue from operations, gaining rapidly, reached \$3,335,458, an increase of nearly 300 per cent in six years.

TOP, RIGHT—Trail blazer of the air 30 years ago was this Boeing 40 B-4, typical craft of its day. This biplane cruised United Air Lines' San Francisco to Chicago route in 1927 at 110 miles per hour, carrying 1,500 pounds of mail and four passengers.

RIGHT — Bathing beauty arrives in San Francisco via TWA which inaugurated "jetstream" flights to East Coast and Europe.



## TAX SUPPORT AND PAYMENT ON DEBT

Summary of tax contributions and the use of Airport funds to finance bond interest and redemption from 1933-34 and prior to 1957-58, inclusive:

USE OF RECEIPTS	TOTAL	RECEIVED FROM	
		TAX	REVENUES
Bond Interest	\$ 2,523,535.71	\$ 946,197.15	\$1,577,338.56
Bond Redemptions	26,071,000.00	21,268,335.71	4,802,664.29
Total Bond Interest and Redemption	\$28,594,535.71	\$22,214,532.86	\$6,380,002.85
Operations	2,493,134.25*	2,493,134.25	
	\$31,087,669.96	\$24,707,667.11	\$6,380,002.85

\* Tax contributions for operations and does not include the use of Airport funds for operations.

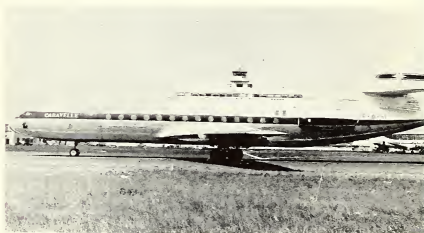
## AIRPORT OPERATING REVENUES

	1955-56	1956-57
Air Carrier Flight Operations .....	\$ 480,489.69	\$ 524,316.77
Public Address System .....	14,142.36	16,683.41
Rentals—Terminal Building .....	603,498.96	634,240.72
Rentals—Other .....	286,852.27	324,114.65
Concessions—Terminal Building .....	421,960.47	481,128.33
U-Drive Autos .....	148,716.19	241,907.38
Taxicabs and Limousines .....	135,787.94	150,807.24
Parking Lots, Meters .....	368,536.62	452,432.83
Auto Service Station .....	15,826.94	17,702.65
Agency Commissions .....	106,633.88	84,330.69
Other Income .....	420,630.68	407,793.33
<b>TOTAL .....</b>	<b>\$3,003,076.00</b>	<b>\$3,335,458.00</b>

acres) from runways to bulk fuel delivery facilities. Proposals include 62 scheduled aircraft loading positions (30 today), eight helicopter loading facilities, 10,000,000 annual passenger capacity, space for 400 corporate aircraft and 5,800 parked autos.

Airlines also were expanding their own facilities at the Airport. United was spending \$6,800,000 on a jet servicing operation. TWA was at work on a \$2,000,000 "jet age" hangar. New lease agreements during the year were for uniform sales and service, beauty salon, reading room, fixed base operator and Military Air Transport.

Plans were announced for a new airlines bus terminal in downtown San Francisco, a much-needed



facility which will benefit air travelers. It is to be built on the southeast corner of Taylor and O'Farrell streets.

Soon to be erected at the Airport west of the terminal building was the Statue of Peace, sculptured by Benny Bufano.

ABOVE—First commercial jet airliner to land at San Francisco International Airport was the French Caravelle, which paused here on a tour of the U. S.

LEFT—From the "wild" West to London with only one stop was a real experience for this young cowboy, shown being dubbed a junior pilot by BOAC captain. London-San Francisco twice weekly service was started April 3 by BOAC.



### BUDGET BRIEFS

<b>RECEIPTS</b>	
Revenues .....	\$3,335,458
Taxes .....	1,323,191
	\$4,658,649
<b>EXPENDITURES</b>	
Operations .....	\$1,879,055
Bond Costs .....	2,520,130
	\$4,399,185
<b>SURPLUS .....</b>	<b>\$ 259,464</b>



# Hetch Hetchy Project

FIRST LARGE contracts on the \$54,000,000 bond financed hydro-electric power project were let during the past fiscal year. Construction of two new plants was authorized by the electorate in 1955 as additions to the Hetch Hetchy system.

The first, designated as the Cherry Power Project, will utilize the water stored behind the recently completed Cherry Valley Dam. This water will be conveyed through a pressure tunnel six miles long to a point on the Cherry River near its confluence with



the Tuolumne River. The 2,400-foot drop will develop a peak capacity of 135,000 kilowatts and under normal conditions an average output equivalent to 67,000 kilowatts.



**HARRY E. LLOYD**  
*Manager and Chief Engineer  
 Hetch Hetchy Water Supply,  
 Power, and Utilities  
 Engineering Bureau*

The second plant, the Canyon Power Project, will develop the power drop between O'Shaughnessy Dam and Early Intake Diversion Dam. It is at Early Intake that water from the Tuolumne is diverted through 19 miles of tunnel to Moccasin Power Plant. An 11-mile pressure tunnel connect-

ing to the reservoir at O'Shaughnessy will produce a power drop of about 1,370 feet at Early Intake, developing an average output of about 61,000 kilowatts. A Bechtel Corporation survey resulted in locating this pressure tunnel on the north side of the Tuolumne canyon, saving an estimated \$1,500,000.

A contract to build and install synchronous generators for Cherry Powerhouse was awarded to Allis-Chalmers Manufacturing Company at a cost of \$3,169,520. It is planned to have the Cherry plant in operation by July, 1960. Preliminary work was started on access roads.

Another important responsibility of this department last year was performing engineering functions for the International Airport and Municipal Railway. Of major importance also was State water legislation. The Public Utilities Commission drew up a

formal statement of water policy to guide the city's actions in connection with the master plan for California's water resources being developed.

Gross revenue from sale of electric energy during 1956-57 was \$4,804,325, an increase of 6.4 per cent over the prior year. Revenue from energy sales to city departments gained 1.4 per cent. The Modesto and Turlock Irrigation Districts increased their purchases by 18 per cent; other customers (industrial) by 12 per cent, chiefly due to the expansion of activities at Permanente Cement Company.

Breakdown of 1956-57 electric energy sold (in kilowatt hours): Municipal accounts 219,993,788. Modesto-Turlock Irrigation Districts 219,024,000. Permanente Cement Company 156,069,290. Kaiser Aluminum and Chemical Corporation 16,128,000. Riverbank Ordnance Plant 7,130,385 and miscellaneous customers 633,767.

A contract was entered into with Roy A. Wehe, rate consultant, to determine the cost to serve the

**RIGHT, UPPER**—Recent photo of \$14,000,000 Cherry Valley Dam shows terraced appearance of earth core-rock structure and concrete bridge over spillway outlet. Dam filled for first time in 1957.

**RIGHT, LOWER**—Hetch Hetchy aqueduct crosses Red Mountain Bar in area where Don Pedro Dam, to be enlarged within a few years, will store 1,200,000 acre-feet of Tuolumne River water, thus insuring an ample water supply for San Franciscans.



# Statement of Water Policy

MORE THAN 50 years ago the people of San Francisco dedicated themselves to the Hetch Hetchy Project on the Tuolumne River watershed to insure an adequate supply of domestic water for themselves and the people of contiguous and adjacent territories. After securing rights of way from the Federal Government and from private interests, and after securing water rights from the State of California and from private interests, the city began the construction of dams, aqueducts, powerhouses, and other facilities to bring the water to the city, a distance of over 150 miles.

In 1930, San Francisco, in furtherance of its policy of controlling its own water supply, purchased all of the water rights and operative properties owned by the Spring Valley Water Company in San Francisco, Alameda, San Mateo and Santa Clara Counties, and has developed all local resources of water to the fullest practical extent.

San Francisco has developed and is still developing its power and water resources on the Tuolumne River watershed. To date it has spent or definitely committed over \$400,000,000 for its water supply and power system. Future plans contemplate the expenditure of such additional funds as may be necessary to carry the project to its ultimate development.

In a firm determination to protect the fruits of its years of work and planning and the people who are now served by its water system, which includes cities, towns and areas outside the City and County of San Francisco and in which there was little or no water and which could not have developed without San Francisco's aid, the City and County of San Francisco adopts the following water policy until changing circumstances warrant the Board of Supervisors altering or amending the same:

San Francisco shall support a California Water Plan which will include the presently authorized Feather River Project of which the South Bay Aqueduct is a necessary part and shall support other legislation to control, conserve, protect and distribute California's water resources to provide sufficient water supplies to meet anticipated water require-

ments for all beneficial uses in all areas of the State insofar as practicable, provided that such plan meets the following requirements:

1. That the California Water Plan does not interfere with the vested water rights of the City and County of San Francisco, and the Turlock, Modesto and Waterford Irrigation Districts on the Tuolumne River and tributaries, and does not interfere with the operations of planned and existing projects owned by these parties.
2. That there be no interference with San Francisco selling water for primary and supplemental domestic and urban purposes in the area within which San Francisco is now supplying such services, as requested, and within which San Francisco is able to continue such supply to ultimate requirements. Said areas are substantially as shown on the attached map.
3. That an equitable formula be evolved to make available waters necessary for the ultimate development of the areas within which said waters originate, such waters to be allocated from presently unappropriated waters and waters included in applications for appropriations filed by the State under Section 10500 of the California Water Code.
4. That each area of the State shall, insofar as is consistent with the welfare of the entire State, be assured that the water allocated by the California Water Plan to that area be available when needed for beneficial use even though there is no present need therefor.
5. That the State Legislature authorize for construction each specific project only upon recommendation of the Department of Water Resources, provided that the cost of construction is equitably apportioned to the beneficiaries and provided further, that the charges for water furnished to proposed water users are sufficient to cover all costs equitably allocable thereto.
6. That there be no interference with the sanitary restrictions now imposed by the City and County of San Francisco on its watersheds.





city's water and power customers and establish an equitable rate structure for such service, including wholesale delivery of water by the Hetch Hetchy Project to the San Francisco Water Department. This report should be ready by early 1958.

One of San Francisco's most valuable assets is its water supply. Few cities in the country have an assured water supply as fine in quality or as dependable in quantity. This is especially important here in the West where water resources are limited.

The people of San Francisco were far-sighted in preparing for their future water needs. Nearly 50 years ago they decided upon the Tuolumne River watershed, high in the Sierra, to meet their increasing needs for water.

The area of watershed included in the city's project is 713 square miles. The aqueduct transporting Tuolumne River water to San Francisco is entirely in tunnel and pressure pipe lines and is a gravity system throughout. It extends from Early Intake Diversion Dam across the broad San Joaquin Valley, through the Coast Range Mountains, and across and around the San Francisco Bay 155 miles to the city.

Additions to the city's water supply system are constructed on a step by step basis in advance of actual need.

There are four principal agencies interested in the development of the Tuolumne River watershed, namely, San Francisco, the Modesto Irrigation District, the Turlock Irrigation District, and the United States Army Engineers.

Development of the watershed is being carried out under existing agreements between these agen-

**LEFT**—Tuolumne River water rushes through giant turbines at Hetch Hetchy's Moccasin Power Plant, which has a capacity of 82,000 kilowatts. Two new power plants are being built on the watershed. Proceeds from power sales help finance San Francisco's municipally owned and operated water and power system, and help keep rates down.



**ABOVE**—Use of "snowmen" hydrographers who make four weeklong treks each season on skies and snowshoes to measure snow moisture content on the upper Tuolumne watershed may soon be a thing of the past. Plans are to use a helicopter for both snow surveys and stream gauging procedures. With a helicopter, the job will take only one day. City "snowmen" pictured at Tuolumne Meadows are R. B. Dahl, John Rawles and Don Paulsen. Man in front carries snow-measuring tube in two sections, strapped to his back.

cies on a cooperative basis. These agreements are unique in the history of water development. Instead of struggling for control of the river and each agency proceeding independently to construct and operate dams and reservoirs for its own purpose, these four groups have been able to merge their separate interests. As a result, by cooperating, each group accomplishes its purpose much cheaper and much more quickly than it could by working alone.

The agreements between the city and the other four agencies are built around the Raker Act, a special Congressional grant which gives San Francisco the right to fully develop its water resources within the boundaries of the Yosemite National Park and the Stanislaus National Forest.

#### BUDGET BRIEFS

<b>RECEIPTS</b>	
Revenues .....	\$8,942,970
<b>EXPENDITURES</b>	
Operations .....	\$3,765,561
Bond Costs .....	4,452,630
Betterments .....	111,553
	<b>\$8,329,744</b>
<b>SURPLUS</b> .....	<b>\$ 613,226</b>



ABOVE—Calaveras Dam, massive earth and rock-fill, was completed in 1925 and acquired by the city in 1930 with purchase of Spring Valley Water Company. The 220 foot high dam is in southern Alameda County but the huge reservoir it forms (31.5 billion gallons capacity) backs up several miles into Santa Clara County. Released water, after passing through aerator (see picture on Page 18), is conveyed to Crystal Springs Lake through Hetch Hetchy aqueduct. BELOW—Spillway overflow weir at Pilarcitos Dam, part of water storage basin system in San Mateo County where four reservoirs in 32 square mile watershed impound 29.5 billion gallons.



## Water Department

WATER PROVIDED for consumption last fiscal year averaged 143,000,000 gallons daily, an increase of 3,900,000 gallons per day over the prior year. Deliveries in San Francisco averaged 89,900,000 gallons daily; the remaining 53,100,000 gallons per day being delivered to areas in San Mateo, Santa Clara and Alameda counties.

Source of water distributed by the Department was: Hetch Hetchy, 70 per cent; Bay Area reservoirs, 30 per cent.

The March 22 earthquake, strongest since the disaster of April 18, 1906, caused no serious damage to Water Department facilities, although some 100 service pipe leaks required repairs.

The 5,100-foot long, 7½-foot diameter Hillsborough Tunnel, a common link in the Sunset Supply Line and the Crystal Springs No. 3 Line, was completed during 1956-57 at a cost of \$1,366,830.

Excavation and embankment work on both basins for Balboa Reservoir and the south basin for Sunset Reservoir was completed, the cost being more than \$1,000,000. When these basins are put into service, they will add about 235,000,000 gallons of storage in the city.

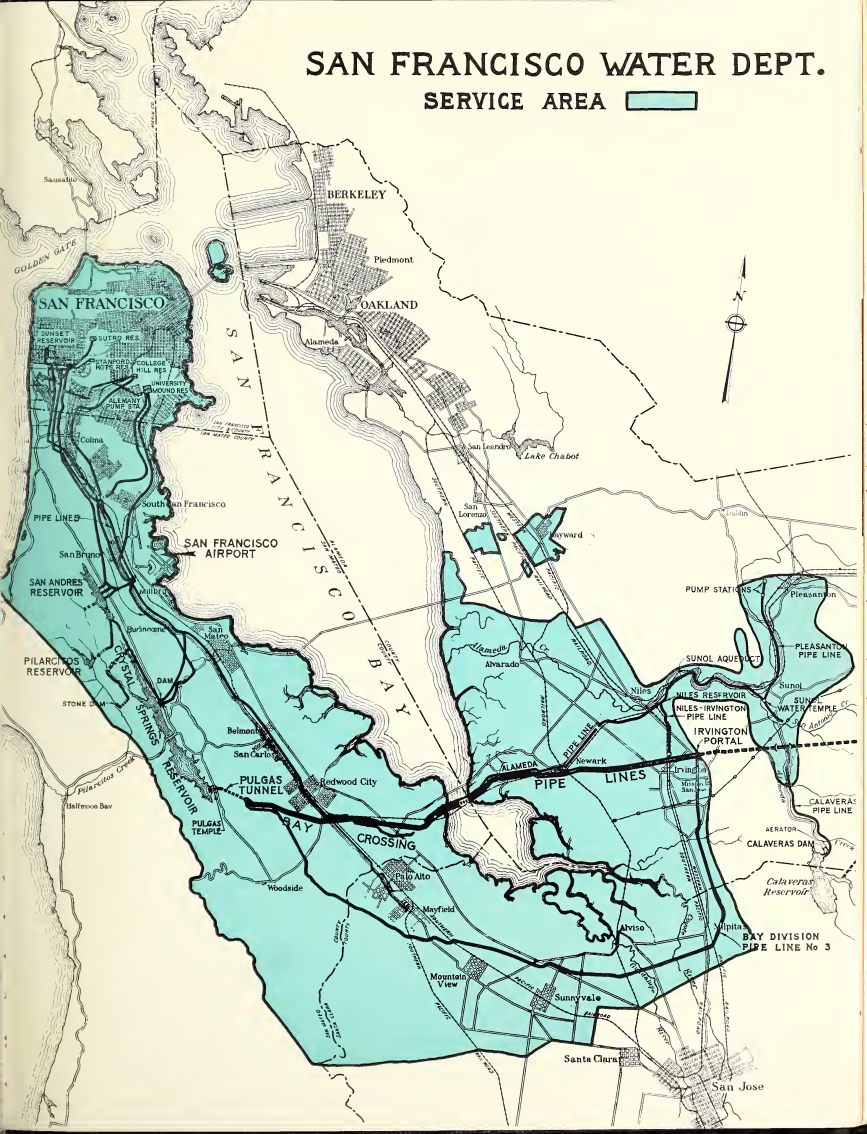
All such capital improvements are paid for out of earnings. The Water Department and its twin sister, the Hetch Hetchy Project, are entirely self-supporting and require no tax subsidy. In fact, water rates in San Francisco today are 10 per cent lower than when the city went into the water distribution business in 1930.

Net charges for sale of water to customers amounted to \$9,936,751 in San Francisco (including \$731,454 supplied other city departments in lieu of



**JAMES H. TURNER**  
General Manager and  
Chief Engineer  
Water Department

# SAN FRANCISCO WATER DEPT. SERVICE AREA





municipal taxes) and \$4,057,664 outside of the city.

A total of 62,791 acres are now held under Water Department jurisdiction. During the past fiscal year 4.3 acres of land were sold and 8.1 acres were purchased.

Although the major portion of Department lands are used for water production only, there are appreciable areas which are producing additional revenue

through leases for grazing, agriculture and other varied types of usage. In addition, the Water Department directly manages a walnut orchard planted on certain of the overlying lands of the gravel beds in the Sunol Valley.

A program initiated a few years ago for improving the properties leased for grazing and agricultural operations which includes crop rotation, controlled grazing, development of springs and replacement of fences, is now resulting in improved maintenance of leased properties and increased revenues to the department through higher production. Tentative figures of gross revenues from leases and agricultural operations for 1956-57 total about \$335,600, an increase of 16 per cent as compared to the previous year.

A total of 6.86 miles of new mains were laid during the year and 3.13 miles were removed or abandoned in the same period, adding a net of 3.73 miles to the city distribution system. Total length of pipe now in the city distribution system is 1,098 miles.

An all-time record daily delivery in San Francisco of 118,300,000 gallons was established on June 25 when the temperature hit 85 degrees. On the same day, the Department provided 103,000,000 gallons to consumers outside the city.

An Ernst & Ernst report recommended numerous Departmental changes to streamline operations and improve efficiency. Many of these recommendations were being put into effect.

On February 1 a change was effected in bill collections by outside agencies, formerly mostly branch banks. As an economy move, these collections were changed to some 50 neighborhood stores.

Accountants disclosed that the Department's profit from operations since acquiring the system March 3, 1930, passed the \$100,000,000 mark in 1956-57.

Footnotes of interest: During 1956-57 the Department issued 887,039 bi-monthly bills to residential and small commercial customers, averaging \$3.56 per bill; there were 18,774 closing bills issued to customers who moved during the year.

LEFT, TOP—Aerator immediately below Calaveras Dam has capacity of 80,000,000 gallons daily.

LEFT—New modern clubhouse at Crystal Springs Golf Course is pictured on March 6 dedication day. Golf facility is leased by the Water Department to Eli Leider.



# Statement of Income

## REVENUE (WATER SALES):

	1955-56	1956-57*
San Francisco	\$ 9,132,838.31	\$ 9,141,812.25
Outside San Francisco	3,853,926.93	4,057,978.10
Municipal Departments—Actual	61,569.09	63,170.59
Municipal Departments—Comparison**	740,038.22	731,453.73
Total	\$13,788,372.55	\$13,994,414.67

## OPERATING EXPENSES:

Source of Water Supply	\$ 475,584.14	\$ 439,641.40
Standby Charge and Purchase of Water	4,030,000.00	4,029,999.00
Pumping	367,162.30	312,919.14
Purification	174,699.90	198,593.63
Transmission and Distribution	964,969.48	1,093,334.47
Commercial Division	612,925.38	629,501.20
Administration and General	730,765.95	830,762.71
Taxes—Paid to Outside Jurisdictions	703,037.40	725,004.00
Provision for Doubtful Accounts	8,105.34	8,847.97
Provision for Depreciation	1,190,548.97	1,178,036.10
Municipal Taxes—Comparison**	740,038.22	731,453.73
Reserve for Refunds	53,282.54	60,358.15
Total	\$10,051,119.62	\$10,238,451.50

## PROFIT FROM OPERATIONS:

\$ 3,737,252.93    \$ 3,755,963.17

## OTHER REVENUE:

Rentals, Including Crop Shares	\$ 245,129.87	\$ 271,863.34
Interest Earned	18,457.35	23,154.60
Sale of Walnuts	44,523.64	63,710.56
Miscellaneous	71,511.96	63,941.82
Total	\$ 379,622.82	\$ 422,670.32

## OTHER EXPENSES:

Bond Interest	\$ 838,324.85	\$ 782,030.53
Agricultural Division	21,416.05	13,840.35
Walnut Orchard Expenses	38,402.11	54,550.44
Miscellaneous	11,184.60	19,345.68
Total	\$ 909,327.61	\$ 869,767.00

## NET INCOME

\$ 3,207,548.14    \$ 3,308,866.49

Increase in accumulated net revenues and contributions  
employed in the business (applied to retirement of  
bonds, capital additions and net changes in working  
capital)

\$ 3,207,548.14    \$ 3,308,866.49

\* All figures subject to final audit.

\*\* Water service to Municipal Departments in lieu of Municipal Taxes.

# Light, Heat and Power

IN ADDITION to the design, construction and operation of San Francisco's street lighting system, functions of this Bureau include the purchase of utility services for all city departments.

As of June 30, end of the fiscal year, 28,287 street lights were in service. About one-fourth, or 7,960, are owned by the city. The Pacific Gas & Electric Company owns 18,488, and 1,839 are jointly owned.

In 1956-57 the city owned lights cost \$27.24 to operate; the PG&E lights cost the city \$37.66 each. This differential explains why the city has a policy of gradually acquiring ownership. City owned lights have increased from 934 in 1933.

Total cost last fiscal year for street lighting was \$977,760, or \$1.23 for each San Franciscan. This compares favorably to costs per capita ranging from \$2.50 to \$4 in other cities with population over 500,000.

New and modern lights were installed at several key locations, some for experimental purposes. Public reaction was invited

on two principal types—tubular fluorescent lamps and color-corrected mercury vapor lamps.

When experiments determine the best type, new lighting fixtures will be installed along Market street from the Ferry Building to Valencia street, and on other major thoroughfares such as Sutter and Mason streets.

Maintenance of city-owned street light equipment was handled by a private contractor last year for the first time. Maintenance costs included \$6,000 for repairs resulting from the March 22 earthquake.

Other Bureau functions include performing rate advisory work, making physical surveys of plant operation and cooperating in installing traffic safety lights.



B. A. DEVINE  
*Manager and Chief Engineer  
Light, Heat and Power*

**BEFORE AND AFTER**—Photo at lower left shows Geary street looking west from Mason after installation of modern fluorescent lights which provide 21,200 lumens of light, as compared to the 10,000 lumens shed by old type lights in lower right photo. Old filament luminaires had been burning for 31 years. Improved lights are important night safety factor.





ABOVE—Chestnut Street is bathed in light after putting in 64 mercury vapor lamps between Van Ness and Richardson avenues at cost of \$43,614.

LEFT, ABOVE—Workman installs big color-corrected mercury vapor lamp, which produces 52,000 lumens of light, at intersection of Market street and Duboce avenue.



LEFT, BELOW—Engineer checks electronic sound security system designed by Bureau technicians at Youth Guidance Center.

#### BUDGET BRIEFS

##### RECEIPTS

Revenues .....	\$2,473,556
Taxes .....	1,280,594
	<hr/> \$3,754,150

##### EXPENDITURES

Operations .....	\$3,636,427
Betterments .....	117,723
	<hr/> \$3,754,150



# Special Bureau Functions

## ACCOUNTS

THE FINANCIAL affairs of all the utilities are supervised and coordinated by the Bureau of Accounts.

Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses of budget requests, supplemental appropriations and transfers of funds. Studies also are made for determination of financial policy regarding depreciation of physical properties and proper rate schedules. The Bureau directs the auditing and accounting functions in the accounting sections of the utilities departments and directs and supervises budgetary control of all utilities. Figures prepared by this Bureau reveal that properties under the jurisdiction of the Public Utilities Commission had an evaluation, as of June 30, 1957, of \$327,861,359, allowing for depreciation.



GEORGE NEGRI  
*Director  
Bureau of Accounts*

## PERSONNEL & SAFETY

IN REGARD to personnel matters, this Bureau processes employments, terminations, transfers and leaves of absence of all employees for all the utilities. Complete personnel records of all employees are maintained at the Bureau's office at 901 Presidio Avenue.

Important safety functions include training of Municipal Railway platform workers, processing data for safety awards, compiling reports on accidents and injuries, setting up and administering industrial safety programs, recommending preventive measures to eliminate accidents and taking part in city traffic



PAUL FANNING  
*Director, Bureau of  
Personnel and Safety*

surveys as regards safety practices affecting workers in all utilities departments.

Once separate bureaus, the personnel and safety functions were combined in 1947 under one director. Bureau records show there were 3,702 employees in all the utilities as of June 30, 1957, a slight decrease over the previous fiscal year.

During the past year, the Bureau director served as president of the San Francisco Council of the National Safety Council.

## PUBLIC SERVICE

MATTERS RELATING to public information, employee and public relations are handled by this Bureau, which has its central office in the City Hall and branch offices at San Francisco International Airport and the Municipal Railway. This includes the preparation of the annual report for the Public Utilities Commission, pamphlets, radio scripts, press releases, motion pictures, and other methods of informing the public about all the utilities, their operations and physical aspects.

An important function is coordinating investigations of complaints and expediting the servicing thereof. Surveys and recommendations are made for effectuation of economies in operations and improved employee relations. Very frequently appearances are made before public agencies and private organizations to tell the story of the utilities.

A director, two assistant directors and a clerical assistant comprise the staff.



VIRGIL L. ELLIOTT  
*Director  
Bureau of Public Service*

Additional copies of this annual report may be obtained by writing to Bureau of Public Service, Room 287, City Hall, San Francisco 2.

# ... In Summary

CUSTOMER SERVICES	1954-55	1955-56	1956-57*
Airport Passengers	2,879,365	3,282,444	3,684,830
Air Shipments (lbs.)	90,430,377	109,704,157	124,897,199
Transit Passengers (Revenue)	147,599,470	143,187,896	142,219,916
Kilowatt Hours Sold	581,000,000	562,100,000	619,000,000
Water Consumption (gal. daily)	135,685,690	139,096,620	142,963,090
Street Lights	27,979	28,239	28,287
REVENUES			
Hetch Hetchy Project	\$ 8,619,505	\$ 8,613,401	\$ 8,942,970
Water Department	13,423,470	13,346,016	13,513,618
Municipal Railway	21,041,686	20,470,119	20,237,823
International Airport	2,512,666	3,003,076	3,335,458
Heat, Light and Power	2,377,131	2,506,491	2,473,556
TAX SUBSIDY			
Municipal Railway	\$ 2,079,280	\$ 3,102,691	\$ 3,496,941
International Airport	1,893,533	798,142	1,323,191
Heat, Light and Power	1,246,037	1,164,176	1,172,369
BOOK VALUE			
Hetch Hetchy	\$121,807,448	\$122,635,633	\$134,965,543
Water Department	97,573,147	98,907,626	105,109,656
Municipal Railway	43,112,667	41,581,605	38,710,833
International Airport	49,196,051	50,291,694	50,505,896
Light, Heat and Power	3,454,310	3,619,965	3,883,332
PUC Gen'l Office	13,916	14,448	15,394
TAXES PAID TO OUTSIDE JURISDICTIONS			
Water Department	\$ 656,215	\$ 703,050	\$ 724,424
International Airport	9,993	70,662	71,574
Hetch Hetchy	20,709	21,342	23,033
SALARIES & RELATED WAGE BENEFITS			
Municipal Railway	\$ 15,875,973	\$ 16,146,170	\$ 15,930,997
Water Department	2,614,406	2,766,947	2,572,909
Hetch Hetchy	1,033,869	1,116,304	1,117,036
International Airport	891,121	1,096,534	1,187,967
Light, Heat and Power	101,299	115,070	115,868
NUMBER OF EMPLOYEES			
Municipal Railway	2,855	2,763	2,751
Water Department	537	515	513
Hetch Hetchy	208	235	231
International Airport	138	166	166
Light, Heat and Power	17	17	17
PUC Gen'l Office	24	24	24
	3,779	3,720	3,702

\* All Figures subject to final audit.



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# ANNUAL REPORT

SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
1957-1958



For dramatic cover theme Designer Don Clever used SF Seal with its graphic depiction of the City's vital historic role in Western commerce.



Don Fazackerley  
PRESIDENT

PUBLIC  
UTILITIES  
COMMISSION  
OF THE  
CITY AND  
COUNTY  
OF  
SAN FRANCISCO



Daniel F. Del Carlo  
VICE PRESIDENT

BOARD OF SUPERVISORS

Francis J. McCarty  
PRESIDENT  
William C. Blake  
Joseph M. Casey  
Harold S. Dobbs  
Dr. Chas. A. Ertola  
John J. Ferdon  
James Leo Halley  
Clarissa McMahon  
Henry R. Rolph  
James J. Sullivan  
Alfonso J. Zirpoli



Edw. B. Baron  
COMMISSIONER



Stuart N. Greenberg  
COMMISSIONER



Joseph Martin, Jr.  
COMMISSIONER



T. N. Bland  
Manager of Utilities

Organization and Structure

Established in 1932 under Charter provisions, the Public Utilities Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the municipally owned utilities: International Airport, Municipal Railway, Water Department, Hetch Hetchy Water Supply, Power and Utilities Engineering, and Light, Heat and Power. There are also three service bureaus: Accounts, Personnel and Safety, and Public Service. Department and bureau heads are responsible to the Manager of Utilities who is, in turn, responsible to the Commission.

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Robert J. Macdonald  
Secretary  
Public Utilities Commission



Thomas M. O'Connor  
Utilities Counsel



James J. Finn  
Executive Secretary to  
Manager of Utilities





GEORGE CHRISTOPHER  
Mayor of San Francisco

PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO



November 1, 1958

SUBJECT: 1957-58 Annual Report

Hon. George Christopher  
Mayor of the City and County  
of San Francisco  
City Hall, San Francisco

My dear Mr. Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual condensed report covering activities and operations for the period beginning July 1, 1957 and ending June 30, 1958.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway of San Francisco; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco International Airport and the Bureau of Light, Heat and Power. In addition, there are three service bureaus comprising the Bureau of Accounts, Bureau of Personnel and Safety, and the Bureau of Public Service.

A summary of the activities and operation of these various departments will be found in this report.

The Commission held 57 regular and special meetings during the year. A budget was adopted by the Commission for the year 1958-59 in the amount of \$70,354,631 and supplemental budgets totaled \$3,459,801.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent a book value before depreciation, as of June 30, 1958, of \$331,708,532. Truly a significant figure attesting to the wealth and progress of our city.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Don Fendley".

President  
Public Utilities Commission

Of the four departments of the Public Utilities Commission, only the Municipal Railway required tax support in fiscal year 1957-58, during which period the SF International Airport—for the first time in its 31-year history—joined the traditionally self-supporting Water Department and Hetch Hetchy Project.

Another "first" was recorded by the Airport: For the first time, more than four million passengers boarded or deplaned at San Francisco. The new record is 4,046,524.

The jet age spurred construction at the Airport, where extension of two runways (\$1,400,000) and construction of a new wing—the \$766,000 Concourse "E"—were started; when completed next year, the new concourse will be used under lease by American Airlines to meet jet operation requirements.

## **Some Highlights of Fiscal Year 1957-58:**

Ground was broken on June 10, 1958, for a \$2,500,000, 300-room luxury hotel at the Airport—the Hilton Inn, first airport facility in the international system of Hilton Hotels.

The Water Department accelerated all activities designed to insure a high quality of water to its customers; 31,143 laboratory and field tests were made in the process of controlling taste, odor and purity of the water supply.

Following a policy of making the highest use of Water Department properties—which total 62,737 acres—leases and agricultural operations produced a gross revenue of \$343,700.

29,558,000,000 gallons of water were diverted by the Hetch Hetchy Project from the Tuolumne River watershed to the San Francisco service area, making a grand total of 456,363,000,000 gallons since the Hetch Hetchy Aqueduct began operation in 1934.

Virtually a complete modernization of the Municipal Railway transit fleet was effected, with 66 new streamlined, one-man PCC ("President Conference Car") streetcars added to take the place of the old "iron monsters," and 70 new diesel-powered Mack coaches acquired under lease to bring the modern coach fleet up to 240.

The giant Cherry Power Project construction was started with award of contracts totaling \$16,300,000; major contract was for the \$8,136,420 Cherry Power Tunnel. When completed by mid-1960, the Cherry will be the first of two power projects authorized by the \$54,000,000 bond issue of 1955.

The broad-based operations of the Public Utilities Commission were reflected in \$905,525 taxes paid Tuolumne, Mariposa, Stanislaus, San Joaquin, Alameda, San Mateo and Santa Clara counties for the Water Department (\$807,182), Airport (\$74,008), and Hetch Hetchy (\$24,335).





Poised on the tremendous threshold of the "breakfast at home, lunch in New York" era, the San Francisco International Airport continued an expansion and development program which has placed it in a most advantageous position of readiness for jet-age aviation well ahead of many of the world's other great airports.

The vast strides being taken stem from approval in 1956 by forward-looking San Francisco taxpayers of a \$25,000,000 general obligation bond issue which, together with funds provided through Federal Airport Aid, are making the huge transition possible.

While the development program was carried on, the Airport continued to maintain its national position as the fifth ranking major hub of domestic and international air traffic. Despite a period labeled recession, the Airport has shown such a burgeoning increase in passenger volume that—for the first time in its 31-year history—more than 4,000,000 people boarded or deplaned at San Francisco between July 1, 1957, and June 30, 1958. This new record of 4,046,524 was accomplished by an average increase of approximately 1,000 passengers a day over the preceding fiscal year.

One facet of the Airport's economic impact on the Bay Area—as of the close of fiscal year 1957-58 it

## International Airport

### AIRPORT OPERATING REVENUES

	1955-56	1956-57	1957-58
Air Carrier Flight Operations	\$ 480,490	\$ 524,317	\$ 750,666
Public Address System	14,142	16,683	19,215
Rentals, Terminal Building	603,499	634,241	639,787
Rentals, Other	286,852	324,115	334,638
Concessions, Terminal Building	421,960	481,128	531,124
U-Drive Autos	148,716	241,907	300,828
Taxis and Limousines	135,788	150,807	157,840
Parking Lots, Meters	368,537	452,433	589,782
Auto Service Station	15,827	17,703	18,603
Agency Commissions	106,634	84,331	73,720
Other Income	420,631	407,793	498,464
<b>TOTAL</b>	<b>\$3,003,076</b>	<b>\$3,335,458</b>	<b>\$3,916,667</b>



BELFORD BROWN Manager, International Airport

## The Airport Prepares for Jet Age

represented a fixed capital investment by San Francisco of \$50,588,264—is shown in its provision of employment for more than 13,000, mostly by airlines, with an annual payroll of approximately \$75,000,000.

Among air carriers and related industries which have leased unimproved acreage for the development of maintenance and repair facilities are American Airlines, Pan American World Airways, Trans World Airlines, United Air Lines, Qantas Empire Airways, Pacific Air Lines, Flying Tiger Line and Rick Helicopters.

During the fiscal year three new lease agreements were consummated, including Hilton Hotels (for the \$2,500,000 Hilton Inn) and Greyhound Rent-A-Car. Two other leases were extended, 11 supplemental agreements developed. In addition to leases, 24 space or use permits were authorized, of which nine are with airlines. Others were to petroleum companies, U-Drive tenants, a catering service, other miscellaneous operations offering Airport services.

Total aircraft operations for the fiscal year were 201,864, according to the Civil Aeronautics Administration's Air Traffic Control Division. This indicates the Airport has an average of 553 aircraft operations a day, approximately 23 each hour. During peak hours there is a landing or take-off almost every minute.

Combined freight, express and mail by air moved through the Airport for the fiscal year amounted to 125,976,603 pounds—an increase of more than a million pounds over the previous fiscal year.

Eleven scheduled air carriers at the Airport currently offer domestic schedules plus international flights to Europe, Central America, Pacific islands and Canada. During the fiscal year Trans World Airlines and Pan American World Airways inaugurated "Polar Service" to London, Paris and Rome, and British Overseas Airways Corporation introduced turbo-prop Britannia aircraft on that carrier's route serving San Francisco and London via New York.



Qantas Empire Airways, Ltd., started round-the-world schedules through San Francisco—a unique service in that often two aircraft are on the ground at the Airport, each having departed from Sydney at approximately the same time but each traveling in opposite directions.

Both private and corporate aircraft activities at the Executive Aircraft Terminal (the former passenger terminal) showed marked growth during the fiscal year. Percentage figures for both transient traffic and locally based aircraft operations are up approximately 20% over the preceding 12-month period.

#### INTERNATIONAL AIRPORT BUDGET BRIEFS

##### RECEIPTS

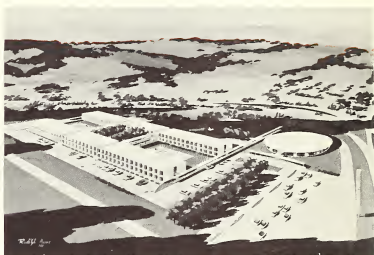
Revenues .....	\$3,916,667
Surplus .....	298,835
	<hr/>
	\$4,215,502

##### EXPENDITURES

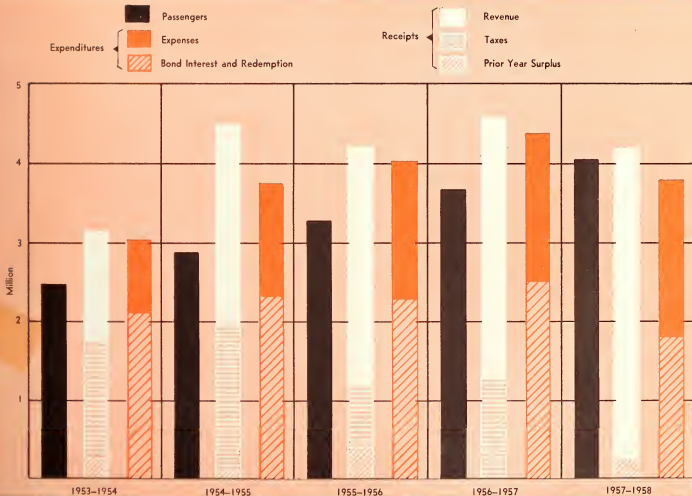
Operations .....	\$1,991,186
Bond Interest and Redemption .....	1,869,882

##### SURPLUS

	\$3,861,068
	<hr/>
	\$ 354,434



Ground was broken June 10 for the \$2,500,000 Hilton Inn at SF International Airport. A 300-room structure with restaurants, a swimming pool, it is the first of a group of Inns planned by Hilton Hotels Corporation for other major United States airports.





◀ Disgorge from its home source high in the Sierra, the foaming lifeblood of growth and progress is guided 150 miles downward to ultimate use in the SF Water Department's service area.

## San Francisco Water Department

Twenty-eight years ago—on March 3, 1930—the people of San Francisco became owners of their own water distribution system, having purchased the Spring Valley Water Company's network of reservoirs, pipelines and operational facilities for \$41,000,000.

Comparison of that first year with the San Francisco Water Department's activity during fiscal year 1957-58 tells a remarkable story of growth and progress. As of June 30, 1958, the value of the system, before depreciation, had grown to \$105,921,737. During the year the department had delivered almost three times as much water (an average of 140,500,000 gallons per day) to customers in San Francisco, San Mateo and southern Alameda counties as in 1930; its revenues had more than doubled (to \$14,024,624); rates to San Franciscans are 10% lower than in 1930.

One of the most dramatic chapters in this growth story concerns the development of Hetch Hetchy water supply sources in the Sierra; of the 51,297,400,000 gallons carried through transmission mains during the past fiscal year, 30,366,100,000 gallons (59.19%) were received from Hetch Hetchy.

The Water Department—like its twin, the Hetch Hetchy Project—is self-supporting. During the fiscal year it paid \$806,915 in taxes to San Mateo, Alameda and Santa Clara counties. During the same period the number of active customers in the San Francisco district increased to 155,071, an increase of 837 over the previous year.

The continuing efforts of the department over the years has been to keep pace with the requirements of a constantly expanding population and to serve its customers the highest quality water at an economical price.

Within San Francisco nearly 10 miles of new mains were laid during the year, bringing the total length of pipe in the city distribution system to 1,104 miles.

Total cost of construction contracts completed was \$4,268,000.



JAMES H. TURNER, General Manager and Chief Engineer, Water Department, with Sunol Water Temple in background.

▶ Derrick towering against the sky is used to pour concrete during paving of Sunset Reservoir's South Basin. A total of 23,500 cubic yards of concrete and 4,000,000 pounds of reinforcing steel is going into the vast structure which covers 11.44 acres—equivalent to 11 football fields.



## WATER DEPARTMENT BUDGET BRIEFS

### RECEIPTS

Revenues .....	\$14,024,624
Prior Year's Surplus .....	185,930

\$14,210,554

### EXPENDITURES

Operations .....	\$ 4,729,129
Standby Charge, Purchase of Water—Hetch Hetchy .....	4,030,000
Bond Interest, Redemption .....	2,653,871
Betterments .....	2,320,246

\$13,733,246

SURPLUS ..... \$ 477,308

Completion of the Hillsborough Tunnel in August, 1957, and subsequent completion in March, 1958, of the Hillsborough pipeline section marked the completion of the Sunset supply pipeline (21.2 miles long; contract cost, over \$7,000,000) which constitutes another major link between water stored in Peninsula reservoirs and consumers in San Francisco and northern San Mateo counties.

Other major projects under construction include lining and roofing the Sunset Reservoir south basin (\$2,154,000) and preliminary work on the two Balboa Reservoir



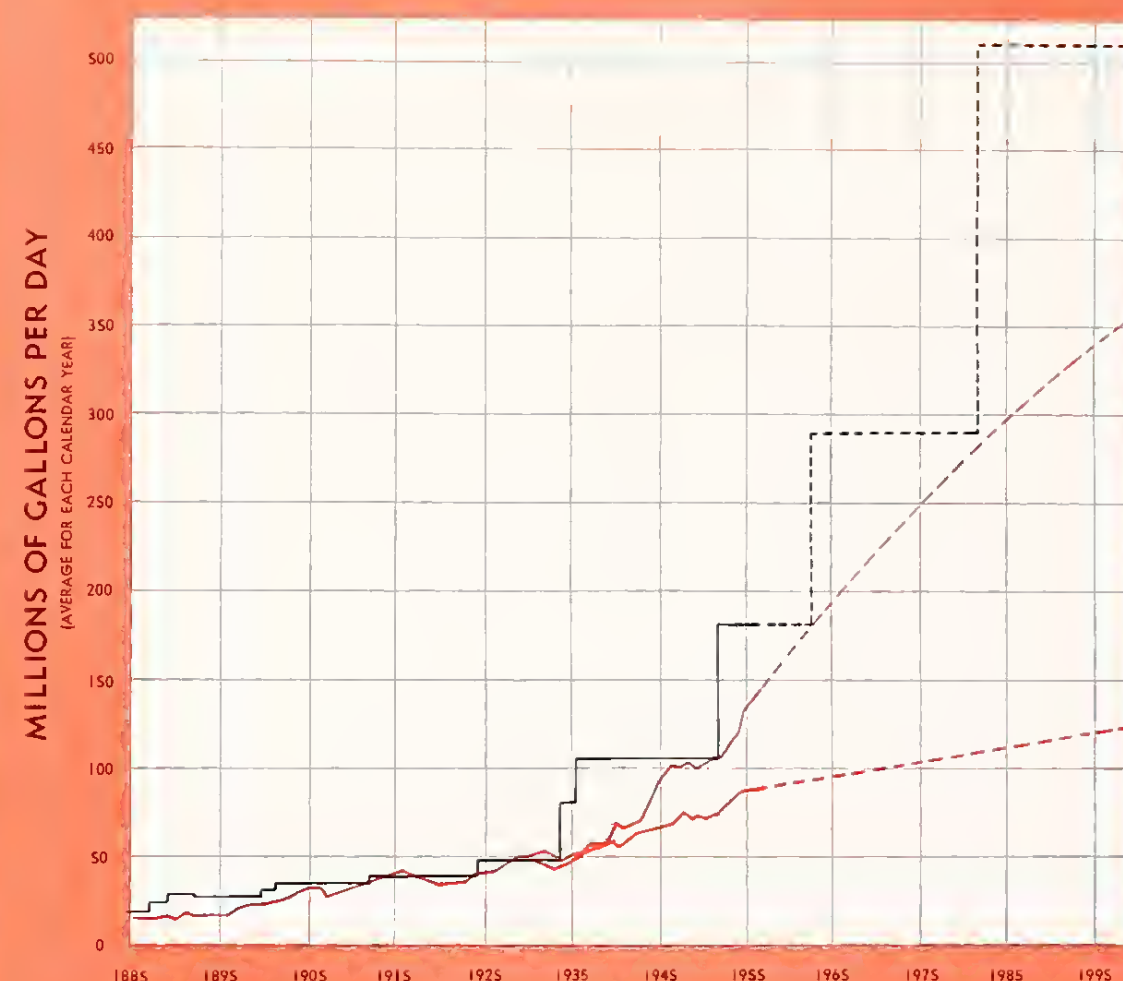
A portion of the 500,000 square feet of roof area is shown under construction at Sunset Reservoir's South Basin. The \$2,154,000 project—located between Pacheco, Quintara, 24th and 28th Avenues—will hold 87,200,000 gallons of water when completed in 1959, increasing total storage of the reservoir's existing North and South Basins to 177,000,000 gallons. It will be bordered by 3½ acres of landscaping.



basins (\$237,784). When these are completed there will be sufficient water stored with San Francisco to supply the city for 4½ days.

Particular emphasis was placed on a program to improve water quality during the year. As rapidly as funds became available, additional personnel, equipment and supplies were obtained to attack all possible sources of contamination.

This included improved chlorination by purchase of new equipment to automatically proportion chlorine according to flow, improved disinfection for all new, altered or repaired mains, initiation of periodic cleaning of all distribution reservoirs, expansion of the program of flushing distribution mains.



Historical and predicted developed delivery capacity of facilities to meet water consumption needs

Historical and predicted consumption within SFWD service area

Historical and predicted consumption within City and County of San Francisco

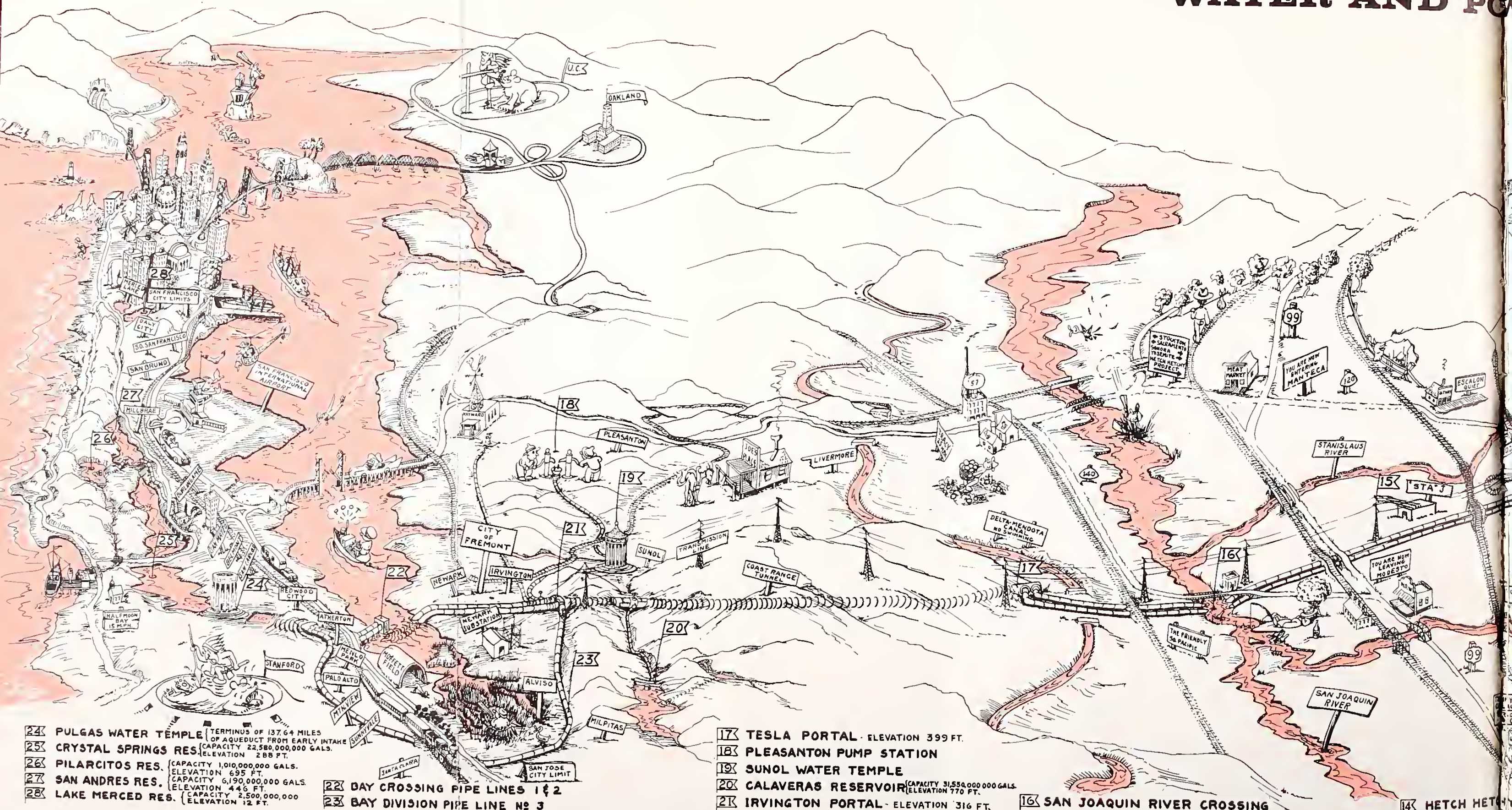
## Water Supply and Metropolitan Growth

Population growth and social progress are historically equated to the availability of an adequate water supply. The constant efforts of the departments of the Public Utilities Commission concerned with the provision of water—the Hetch Hetchy System and the San Francisco Water Department—are reflected in the above graph.

The complete story of the City's historical development program is vividly told by the map spread over the inside gate-fold pages as well as by the map on the opposite page which delineates the area down the Peninsula and in southern Alameda County served by the Water Department.







- 24 PULGAS WATER TEMPLE (TERMINUS OF 137.64 MILES OF AQUEDUCT FROM EARLY INTAKE)
- 25 CRYSTAL SPRINGS RES. (CAPACITY 22,580,000,000 GALS. ELEVATION 288 FT.)
- 26 PILARCITOS RES. (CAPACITY 1,010,000,000 GALS. ELEVATION 695 FT.)
- 27 SAN ANDRES RES. (CAPACITY 6,190,000,000 GALS. ELEVATION 446 FT.)
- 28 LAKE MERCED RES. (CAPACITY 2,500,000,000 GALS. ELEVATION 12 FT.)

- 22 DAY CROSSING PIPE LINES 1 & 2
- 23 BAY DIVISION PIPE LINE NO 3

- 17 TESLA PORTAL - ELEVATION 399 FT.
- 18 PLEASANTON PUMP STATION
- 19 SUNOL WATER TEMPLE
- 20 CALAVERAS RESERVOIR (CAPACITY 31,550,000,000 GALS. ELEVATION 770 FT.)
- 21 IRVINGTON PORTAL - ELEVATION 316 FT.

- 16 SAN JOAQUIN RIVER CROSSING

- 14 HETCH HETCHY
- 15 HETCH HETCHY



# POWER SYSTEM, HETCH HETCHY TO SAN FRANCISCO

**1** O'SHAUGHNESSY DAM-HETCH HETCHY RES. (ELEVATION 3,806 FT. CAPACITY 117,300,000,000 GALS.)

**2** ELEANOR DAM - LAKE ELEANOR RES. (ELEVATION 4,660 FT. CAPACITY 8,500,000,000 GALS.)

**3** CHERRY DAM - LAKE LLOYD RES. (ELEVATION 4,700 FT. CAPACITY 87,400,000,000 GALS.)

**4** ELEANOR-CHERRY TUNNEL (UNDER CONSTRUCTION)

**5** CANYON POWER PLANT-POWER TUNNEL - PENSTOCK (CAPACITY 67,500 KW. TO BE CONSTRUCTED AT EARLY DATE.)

**6** CHERRY POWER PLANT-POWER TUNNEL - PENSTOCK (CAPACITY 131,500 KW.—UNDER CONSTRUCTION)

**7** EARLY INTAKE POWER PLANT (CAPACITY 3,795 KW.)

**8** EARLY INTAKE, BEGINNING OF 137.5 MI. OF AQUEDUCT BRINGING WATER TO SAN FRANCISCO FROM HIGH SIERRA WATERSHEDS.

**9** MOUNTAIN DIVISION TUNNEL

**10** PRIEST RESERVOIR (ELEVATION 2,169 FT.)

**11** MOCCASIN POWER PLANT (CAPACITY 82,000 KW. ELEVATION 681 FT.)

**12** RED MOUNTAIN BAR SIPHON

**13** OAKDALE PORTAL (ELEVATION 747 FT.)

**HETCH HETCHY WATER AND POWER SYSTEMS**

**PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO**



# POWER SYSTEM, HETCH HETCHY TO SAN FRANCISCO

**1** O'SHAUGHNESSY DAM-HETCH HETCHY RES. (ELEVATION 3,806 FT. CAPACITY 117,300,000,000 GALS.)

**2** ELEANOR DAM - LAKE ELEANOR RES. (ELEVATION 4,660 FT. CAPACITY 8,500,000,000 GALS.)

**3** CHERRY DAM - LAKE LLOYD RES. (ELEVATION 4,700 FT. CAPACITY 87,400,000,000 GALS.)

**4** ELEANOR-CHERRY TUNNEL (UNDER CONSTRUCTION)

**5** CANYON POWER PLANT-POWER TUNNEL - PENSTOCK (CAPACITY 67,500 KW. TO BE CONSTRUCTED AT EARLY DATE.)

**6** CHERRY POWER PLANT-POWER TUNNEL - PENSTOCK (CAPACITY 131,500 KW.—UNDER CONSTRUCTION)

**7** EARLY INTAKE POWER PLANT (CAPACITY 3,795 KW.)

**8** EARLY INTAKE, BEGINNING OF 137.5 MI. OF AQUEDUCT BRINGING WATER TO SAN FRANCISCO FROM HIGH SIERRA WATERSHEDS.

**9** MOUNTAIN DIVISION TUNNEL

**10** PRIEST RESERVOIR (ELEVATION 2,169 FT.)

**11** MOCCASIN POWER PLANT (CAPACITY 82,000 KW. ELEVATION 681 FT.)

**12** RED MOUNTAIN BAR SIPHON

**13** OAKDALE PORTAL (ELEVATION 747 FT.)

**14** TURLOCK LAKE

**15** SIERRA RAILWAY

**16** MODESTO RESERVOIR

**17** WELCOME TO OAKDALE

**18** OAKDALE SUB. STA.

**19** TURLOCK DIST.

**20** FARM LABOR WANTED

**21** DO NOT FEED THE BEARS

**22** MT. LYELL

**23** LYELL GLACIER

**24** DANA FORK TUOLUMNE RIVER

**25** TUOLUMNE MEADOWS

**26** TUOLUMNE RIVER

**27** MIDDLE FORK TUOLUMNE

**28** SOUTH FORK TUOLUMNE RIVER

**29** CRANE FLAT RANGER STA.

**30** ENTERING CAMP MATHER

**31** TULUMNE RIVER

**32** JACKSONVILLE

**33** CHINESE CAMP

**34** HIWAY 49 TO SONORA AND MOTHER LODGE COUNTRY

**35** FATHER LODGE

**36** MOTHER LODGE

**37** THE HIGH SIERRA

**38** TIOGA PASS

**39** YOSEMITE NATIONAL PARK

**40** YOSEMITE VALLEY

**41** AQUEDUCT

**42** TRANSMISSION LINE

**43** NORTH IS UP THATAWAY.

**44** CHAS. L. FERRO 1950

**HETCH HETCHY WATER AND POWER SYSTEMS**

**PUBLIC UTILITIES COMMISSION CITY AND COUNTY OF SAN FRANCISCO**

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**HETCH HETCHY WATER AND POWER SYSTEMS**

**PUBLIC UTILITIES COMMISSION  
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**HETCH HETCHY WATER AND POWER SYSTEMS**

**PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO**



The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission.

In the first capacity, it has full charge of the giant Hetch Hetchy water supply and electric power system which starts in the high Sierra watershed of the Tuolumne River. In the second, the Bureau provides engineering services for the San Francisco International Airport and the Municipal Railway.

Construction work performed under the Bureau's direction during fiscal year 1957-58 on the Hetch Hetchy Project, the Airport and the Municipal Railway totaled approximately \$5,000,000. At the close of the fiscal year, an additional \$15,000,000 of work was under construction.

Water supply operations during the year involved handling of the largest amount of water in Bureau history. Precipitation and runoff on the Tuolumne River watershed were among the highest on record. Seasonal total precipitation at Hetch Hetchy was 44.37 inches compared to an average seasonal total of 34.15 inches for a 48-year period. Total runoff on the watershed was approximately 142% of normal.

Releases from Hetch Hetchy Reservoir, Lake Lloyd and Lake Eleanor, in conformance with flood control regulations, during the period March 1 to June 30, 1958, exceeded their combined storage capacity of 655,000 acre-feet; nevertheless, the three reservoirs were full before the runoff season was over.

During the fiscal year, 29,558,000,000 gallons of water were diverted from the Tuolumne River watershed to the San Francisco service area, making a grand total of 456,363,000,000 gallons since the Hetch Hetchy Aqueduct began operation in 1934.

Today one of the finest water supply systems in the country, the Hetch Hetchy Project was pioneered by foresighted engineers more than half a century ago. It is being built under a long-established plan for the full development of the Tuolumne River watershed by the City and County of San Francisco in neighborly cooperation with the Modesto Irrigation District, the Turlock Irrigation District and the U. S. Army Engineers.

HARRY E. LLOYD, Manager and Chief Engineer of Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau, at Moccasin Powerhouse with big penstock in background.



#### HETCH HETCHY BUDGET BRIEFS

##### RECEIPTS

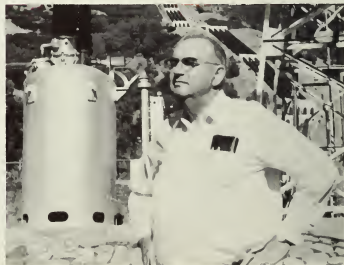
Standby Charge, Sale of Water—	
Water Department .....	\$4,030,000
Revenue from Sale of Power .....	4,882,146
Other Revenues .....	124,415
Prior Year's Surplus .....	467,360
	<hr/>
	\$9,503,921

##### EXPENDITURES

Operations .....	\$3,871,651
Bond Interest, Redemption .....	5,054,462
Betterments .....	304,655
	<hr/>
	\$9,230,768

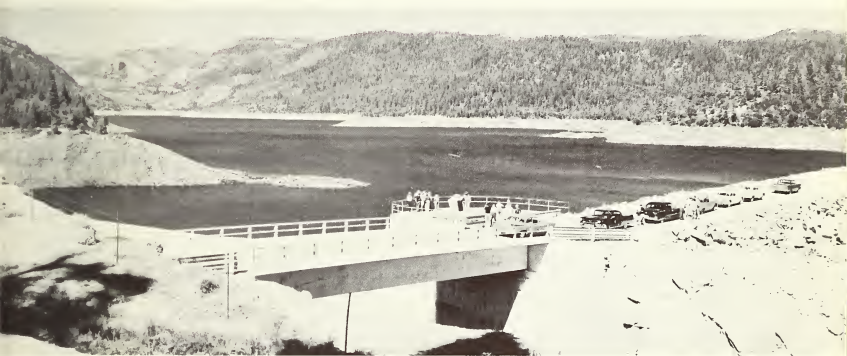
SURPLUS .....	\$ 273,153
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## Hetch Hetchy



Bored into granite, \$8,136,000 pressure tunnel nearly six miles long, over 12 feet in diameter, will convey Lake Lloyd water to powerhouse site. Completion scheduled for June, 1960.

Water from beautiful Lake Lloyd, impounded behind \$14,200,000 Cherry Valley Dam, will generate hydro-electric energy at Cherry Powerhouse when plant is completed in July, 1960.



## Project: Water and Power

Under the \$54,000,000 bond issue approved in 1955, construction of two hydro-electric power plants was authorized as additions to the Hetch Hetchy power system.

Actual construction work on the first of these plants, the Cherry Power Project, was started during the fiscal year with the award of 10 construction and equipment purchase contracts totaling approximately \$16,300,000, including an \$8,136,420 pressure tunnel through which water will be conveyed from Lake Lloyd and Lake Eleanor six miles to a point on the Cherry River near its confluence with the Tuolumne River. Here a power drop of approximately 2,400 feet to the powerhouse will

develop a peak capacity of 131,500 kilowatts. Work on the tunnel was started December 2, 1957, is scheduled for completion in June, 1960. Cherry Powerhouse is expected to be in operation the following month, July, 1960.

The second plant, the Canyon Power Project, will utilize 11 miles of new pressure tunnel from O'Shaughnessy Dam to Early Intake Diversion Dam on the Tuolumne River where a 1,370-foot power drop to a powerhouse will develop an average output of about 61,000 kilowatts. During the fiscal year, preliminary studies and engineering were continued on the Canyon Power Project.

# The Municipal Railway

Metropolitan planners for years have viewed with alarm the post-war specter of private transportation in the city. They point out that—unless public transit is developed into proper balance—cities will continue to require such economy-straining antidotes as more street widenings, increased off-street parking, additional freeways.

In San Francisco, a city with the second highest per capita riding habit in the United States, the Municipal Railway is holding the tide against the private transportation menace by carrying more than 16,000,000 passengers each month.

Each weekday the modern transit vehicles of the "Muni"—to use the system's colloquial abbreviation—travel 90,000 miles on scheduled routes to bring its passengers to their destinations. That's a daily distance equal to three times around the world.

Its passengers enjoy one of the world's most convenient systems: Nine out of 10 people in this highly congested city of hills, valleys and generally dramatic terrain live within two blocks of a Muni route.

To serve them—655,000 passengers each day—the Muni sends 850 vehicles over 488 miles of scheduled routes, making more than 500,000 stops on 60 bus, trolley coach, streetcar and cable car lines.

And they are transported for a fare that is one of the country's biggest transit bargains—15 cents a ride.

Reason for the 15-cent fare is the city's official policy to subsidize transit as a necessary and essential public service. The policy is based on recognition of the Muni as a virtual "lifeline" between

Only three major cities—San Francisco, New York and Boston—charge a 15-cent fare for surface transit; all three subsidize.

The basic fare is 20 cents in Detroit, Cleveland, Washington, D. C., Philadelphia and Oakland, with zone charges increasing that figure. It's 25 cents in Chicago, St. Louis and Pittsburgh. In Los Angeles it's 17 cents with added zone charges. The national average—counting small cities, too—is 18 cents.





## It's San Francisco's Lifeline

districts and downtown to the vital shopping and financial sections, an area small in size but giant in economic proportions since it comprises from 70% to 80% of San Francisco's tax base.

If it were not for the Muni, sure traffic strangulation would quickly result in rigor mortis downtown. It's a simple matter of mathematics: An average of from 36 to 40 autos is required to do the transportation job of one Muni vehicle. And the inescapable clincher is that the Muni moves on schedule, it comes and goes, while the autos, somehow, somewhere, have to stop and park.

As of June 30, 1958, after sweeping transit changes made under the post-war modernization program financed by the \$20,000,000 bond issue of 1947, the "New Municipal Railway" presents a vastly different and improved type of transit system, acknowledged to be one of the most modern in the nation.

The new look and improved service result from extensive conversions from the more expensive, outmoded rail operation to less costly, more comfortable, streamlined motor buses and trolley coaches on rubber tires, and from two-man street cars to the more economical one-man operation.

(The last two-man streetcar operated on a scheduled run May 9, 1958, then rolled into retirement.)

More up-to-date equipment than ever before and the maintaining of an entirely modern transit system at the lowest possible charge are the "big guns" used by the Muni's staff of transit experts in their battle against decreasing use of the system.

Decreasing use is the post-war boogie-man of the transit industry nationally. In San Francisco the picture is this: In the fiscal year 1945-46 the Muni carried 326,007,393 passengers—66.8% more than the 195,471,709 riders it carried in 1957-58, the fiscal year just completed. But there's a rainbow in the picture: The percentage of decreased use has been decreasing in recent years, indicating a leveling off of the passenger decline.

Of vital importance in the battle against decreased use is public awareness of the system's economic importance to San Francisco. Press, TV, radio and other public information media as well as community organizations have contributed greatly to a city-wide public relations program designed to augment the day-by-day operation and the future planning of the Muni.



# Muni Is Modern Transit System



CHARLES D. MILLER  
General Manager of the Municipal Railway

## MUNICIPAL RAILWAY BUDGET BRIEFS

### RECEIPTS

Revenues .....	\$19,896,893
Other Income .....	35,078
Prior Year's Surplus .....	1,009,495
Taxes .....	3,455,358

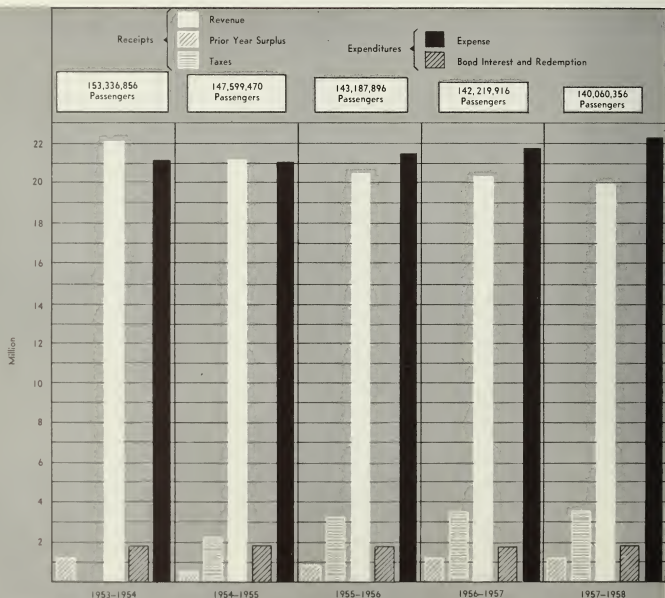
**\$24,396,824**

### EXPENDITURES

Platform Wages .....	\$ 9,041,943
Bond Interest, Redemption .....	1,826,756
Other Expenses .....	13,264,609

**\$24,133,308**

**SURPLUS ..... \$ 263,516**





Provision for electric, gas and steam services to municipal departments of San Francisco and the design, construction and operation of the City's street lighting facilities are the principal functions of the Bureau.

Electric energy supplied municipal accounts (185,731,-310 kilowatt-hours for the fiscal year, exclusive of energy used for street lighting) is generated by the City's Hetch Hetchy Power System, which delivers the energy by utilizing distribution facilities of Pacific Gas and Electric Company under contract.

Gas (11,264,928 hundred-cubic-feet for the fiscal year)

#### LIGHT, HEAT AND POWER BUDGET BRIEFS

##### RECEIPTS

Revenues .....	\$2,500,650
Taxes .....	1,171,906
	<b>\$3,672,556</b>

##### EXPENDITURES

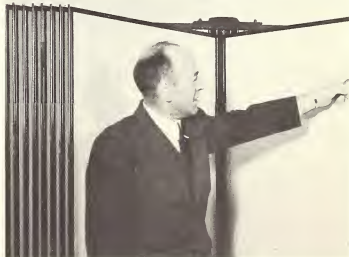
Operations .....	\$3,665,742
Betterments .....	6,814
	<b>\$3,672,556</b>

## Light, Heat and Power

and steam (1,766,300 pounds) are furnished the municipal accounts by the PG&E in accordance with its annual contract with the Bureau.

San Francisco's street lighting system is comprised of 8,248 (29.1%) City-owned units, 18,502 (65.2%) owned by the PG&E, and 1,607 (5.7%) owned jointly by City and Company—a total of 28,357 units. Hetch Hetchy supplies electric energy for the entire street lighting system—34,422,298 kwh for the fiscal year.

B. A. DEVINE, Manager and Chief Engineer, Bureau of Light, Heat and Power, retired at the end of the 1957-58 fiscal year after 25 years of service to San Francisco. The Bureau was subsequently merged with the Hetch Hetchy Project.





## Bureau of Accounts

The Bureau of Accounts supervises and coordinates the financial affairs of all utilities. Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. In addition it assists with negotiation of all leases of Public Utilities Commission property.

Figures prepared by this Bureau reveal that properties under the jurisdiction of the PUC have a book value before depreciation, as of June 30, 1958, of \$331,705,532.

GEORGE NEGRI, Director, Bureau of Accounts ▶



## Special Bureau Functions

### Bureau of Personnel Safety

This Bureau processes employments, terminations, transfers and leaves of absence of all employees and maintains complete personnel records for the 3,795 employed in the various utilities as of June 30, 1958.

Important safety functions include training of Municipal Railway platform workers, processing data for safety awards, compiling reports on accidents and injuries, setting up and administering transit safety and industrial safety programs, recommending preventive measures to eliminate accidents, taking part in city traffic surveys with respect to general and public traffic safety.

PAUL FANNING, Director, Bureau of Personnel and Safety ▶



### Bureau of Public Service

Matters relating to public information, employee and public relations are the responsibility of the Bureau of Public Service, which has its main office at City Hall with branch offices at San Francisco International Airport and the Municipal Railway.

Through the cooperation of press, television and radio, through programs of speaking and motion picture films, through publications such as this Annual Report and educational work with schools, clubs and civic groups, information is widely disseminated regarding the utilities for the benefit of its citizen-owner-customers.

◀ WILLIAM SIMONS, Director, Bureau of Public Service

CREDIT LINES: This Annual Report designed by the studio of Donald G. Clever • Edited by Bureau of Public Service, PUC • Graphs and Maps by Charles L. Reed, PUC Artist • Photography under direction of Marshall Moxom, PUC Photo Lab • Lithography by The James H. Barry Company.

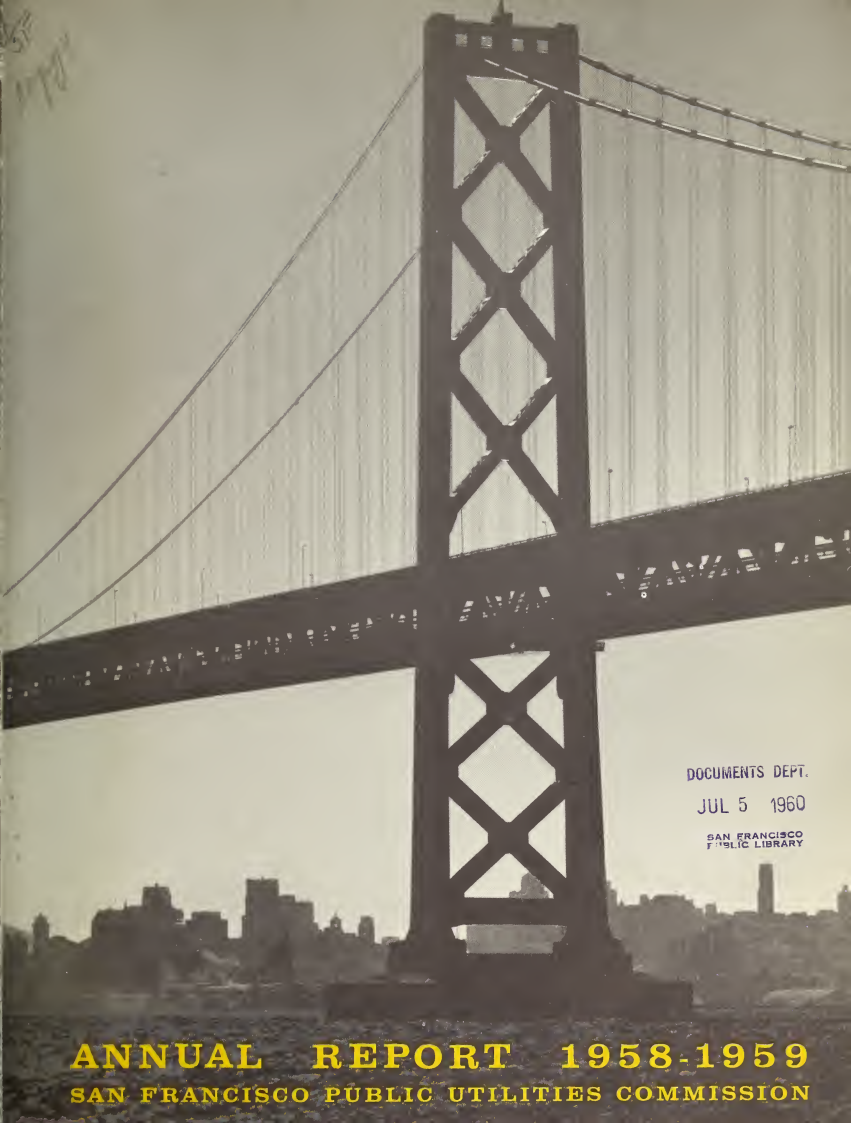
## ...in Summary

CUSTOMER SERVICES	1955-56	1956-57	1957-58*
Airport Passengers	3,282,444	3,684,830	4,046,524
Air Shipments (lbs.)	109,704,157	124,897,199	125,976,603
Transit Passengers (Revenue)	143,187,896	142,219,916	140,060,356
Kilowatt Hours Sold	562,100,000	619,000,000	615,325,275
Water Consumption (gal. daily)	139,096,620	142,963,090	140,540,904
Street Lights	28,239	28,287	28,357
<b>TAX SUBSIDY</b>			
Municipal Railway	\$ 3,102,691	\$ 3,496,941	\$ 3,455,358
International Airport	798,142	1,323,191	—
Light, Heat and Power	1,164,176	1,172,369	1,171,906
<b>BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION</b>			
Hetch Hetchy	\$122,635,633	\$134,965,543	\$134,589,721
Water Department	98,907,626	105,109,656	105,921,737
Municipal Railway	41,581,605	38,710,833	36,702,739
International Airport	50,291,694	50,505,896	50,588,264
Light, Heat and Power	3,619,965	3,883,332	3,884,728
PUC Gen'l Office	14,448	15,394	18,343
<b>TOTAL</b>	<b>\$317,050,971</b>	<b>\$333,190,654</b>	<b>\$331,705,532</b>
<b>TAXES PAID TO OUTSIDE JURISDICTIONS</b>			
Water Department	\$ 703,050	\$ 724,424	\$ 807,182
International Airport	70,662	71,574	74,008
Hetch Hetchy	21,342	23,033	24,335
<b>SALARIES &amp; RELATED WAGE BENEFITS</b>			
Municipal Railway	\$ 16,146,170	\$ 15,930,997	\$ 16,363,577
Water Department	2,766,947	2,572,909	2,908,228
Hetch Hetchy	1,116,304	1,117,036	1,195,336
International Airport	1,096,534	1,187,967	1,271,160
Light, Heat and Power	115,070	115,868	113,687
<b>NUMBER OF EMPLOYEES</b>			
Municipal Railway	2,763	2,751	2,786
Water Department	515	513	545
Hetch Hetchy	235	231	255
International Airport	166	166	170
Light, Heat and Power	17	17	16
PUC Gen'l Office	24	24	23
	<b>3,720</b>	<b>3,702</b>	<b>3,795</b>

\*All Figures subject to final audit.

Additional copies of this 1957-58 Annual Report of the Public Utilities Commission may be obtained from the Bureau of Public Service, Room 287, City Hall, San Francisco 2, California.





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**ANNUAL REPORT 1958-1959**  
**SAN FRANCISCO PUBLIC UTILITIES COMMISSION**

## THE PUBLIC UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco.

These utilities are the Municipal Railway of San Francisco, the San Francisco International Airport, the San Francisco Water Department, and the Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Service.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the utilities. Department and bureau heads are responsible to the Manager of Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual condensed report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the period beginning July 1, 1958 and ending June 30, 1959.







## HIGHLIGHTS OF THE YEAR

A personnel change of major importance to San Francisco occurred when T. N. Bland, who had reached the City Charter-prescribed retirement age, retired as Manager of Utilities. The Commission appointed Robert C. Kirkwood, former Controller of the State of California, to this top Utilities position, effective February 1, 1959.

Significant new records were established by the Utilities: For the first time since the 1945-46 war-time peak, the Municipal Railway showed an increase of almost one million revenue passengers; for the second straight year more than four million passengers boarded or deplaned at the Airport; City water consumption increased 7 percent, suburban use jumped 22.6 percent.

The scope of the Utilities' wide-flung operations was reflected in \$1,019,505 taxes paid jurisdictions outside San Francisco (Tuolumne, Mariposa, Stanislaus, San Joaquin, Alameda, San Mateo and Santa Clara Counties) for the Water Department (\$911,098), Airport (\$81,629), and Hetch Hetchy (\$26,778).

With the exception of the Municipal Railway, tax-supported to maintain the 15-cent fare, all of the Utility departments continued to operate without tax subsidy. It was the second consecutive year in its 32-year history that the Airport joined the traditionally self-supporting Water Department and Hetch Hetchy Project.

Pointing up the continuous program of Utilities advancement was the performance of approximately \$17,500,000 construction work during the year. At year's end, an additional \$20,250,000 of work was under construction.

It was one of the driest years on record—San Francisco's rainfall was 51 percent of normal; Hetch Hetchy System's runoff was 59 percent of normal. Highest demand on the Water Department's distribution in one day (June 29, 1959) was 246,000,000 gallons. Average daily consumption was 157,621,132. During the year 37,603,000,000 gallons were diverted from the Tuolumne River watershed to San Francisco's service area.

The Municipal Railway continued to move more than 655,000 passengers every weekday. To accomplish this Herculean transit job, its vehicles traveled 90,000 miles—a daily distance equal to three times around the world!

The Airport took a dramatic stride forward into the age of jets; during the year, jet and turbo-prop aircraft were placed in commercial operation on revenue-producing schedules by eight of the 13 airlines currently serving San Francisco.





George Christopher  
*Mayor of San Francisco*



Don Fazackerley  
*President*



Daniel F. Del Carlo  
*Vice President*

## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Edw. B. Baron  
*Commissioner*



Stuart N. Greenberg  
*Commissioner*



Joseph Martin, Jr.  
*Commissioner*



Robert C. Kirkwood  
*Manager of Utilities*



Robert J. Macdonald  
*Secretary to Commission*



James J. Finn  
*Executive Secretary to Ma*

## BOARD OF SUPERVISORS

Harold S. Dobbs, *President*

William C. Blake

Joseph M. Casey

Dr. Charles A. Ertola

John J. Ferdon

James Leo Halley

Clarissa McMahon

Henry R. Rolph

J. Joseph Sullivan

James J. Sullivan

Alfonso J. Zirpoli

## PUBLIC UTILITIES COUNSEL

The Public Utilities Counsel is the head of a division of the City Attorney's office which consists of the Counsel and other Deputy City Attorneys who are assigned to the work of the Public Utilities Commission.

The Counsel renders legal advice to the Commission, the Manager of Utilities and to the departments and bureaus of the Commission. He is also in charge of all litigation and administrative proceedings concerning the Commission and prepares and approves contracts, leases and other legal documents in connection with the operation of the Commission.

Thomas M. O'Connor  
*Public Utilities Counsel*



## SPECIAL BUREAU FUNCTIONS



### BUREAU OF ACCOUNTS

The Bureau of Accounts supervises and coordinates the financial affairs of all utilities. Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. It also assists with negotiation of all leases of Public Utilities Commission property.

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George P. Negri  
*Director, Bureau of Accounts*

### BUREAU OF PERSONNEL AND SAFETY

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Paul J. Fanning, Director,  
*Bureau of Personnel and Safety*



### BUREAU OF PUBLIC SERVICE

Public information, employee and public relations are the responsibility of this Bureau, which has its main office at City Hall with branches at Municipal Railway and SF International Airport.

Working with press, television and radio, through publications such as this Annual Report and educational programs with schools, clubs and civic groups, information regarding the utilities is widely disseminated to its citizen-owner-customers.

William Simons, Director,  
*Bureau of Public Service*



## SF INTERNATIONAL AIRPORT

During the 12 months encompassed in this report San Francisco International Airport has experienced what will undoubtedly prove to be the most important development in commercial aviation since the "Kitty Hawk."

This great forward stride was the placing in commercial operation of jet and turbo-prop aircraft on revenue-producing schedules by eight of the 13 airlines now serving San Francisco.

The change-over (from piston to jet-powered aircraft) of the general concept of air travel has necessitated many dramatic innovations in expansion plans for the terminal complex. Some of these changes are currently in the process of being accomplished; others are still in various planning stages.

Perhaps the most significant and far-reaching action affecting the Airport during the fiscal year was approval by the Public Utilities Commission of a master plan for development of the terminal complex area during the next decade.

This master plan is an extremely imaginative as well as practical concept calling for the addition of two sub-terminal arms to the existing terminal building with a vast parking facility filling in the oval to be formed by the complex.

The economic impact this development will have can be measured by the soaring passenger volume at the Airport—4,275,675 during the fiscal year, a 5.7 percent increase over the previous 12 months. (The 1957-58 total was 4,046,524; in 1956-57 it was 3,684,830.)

During this period the Airport maintained its position as the nation's fifth ranking major hub of domestic and international traffic, accommodating

3.5 percent of all passengers carried on scheduled domestic airlines throughout the United States.

Aircraft operations for the fiscal year totaled 218,209. Of this amount, 61 percent (133,218) was scheduled airline arrivals or departures. These figures indicate an average of 598 aircraft operations a day—approximately 25 each hour. During peak hours this amounts to a landing or take-off almost every minute; there is seldom a period when at least one operation does not occur every three to five minutes.

Combined freight, express and mail by air amounted to 146,362,220 pounds—more than 20,000,000 in excess of the total for the preceding year.

The Airport's 13 scheduled air carriers offer domestic schedules plus international flights to Europe, Central America, Pacific Islands, and Canada. (Another carrier, Lufthansa, the German airline, has announced plans to start San Francisco service in April, 1960.)

In cooperation with other city departments and civic organizations, the Airport is constantly alert to San Francisco's air carrier service requirements, has aggressively pursued each opportunity to further develop service. Each issue is carefully weighed on the basis of demand, its effect on competition and the over-all economy of the area.

In connection with San Francisco's position that additional non-stop service to and from New York is needed, the Airport staff assisted the City Attorney's office in presenting the "third non-stop" issue to a Civil Aeronautics Board examiner. The CAB subsequently ruled in favor of a third non-stop service between San Francisco and New York.

At the close of the fiscal year, San Francisco's fixed capital investment in the Airport was \$54,059,140.

## THE JET AGE BRINGS NEW CONCEPT OF AIR TRAVEL



▲ *Globe-strinking jet operations at SF International Airport by Boeing 707s and DC-8s of TWA, United, American and Pan American are shown in the above picture strip across Pages 4 and 5. The enormous United bangar is for line maintenance of jets; American's mobile passenger ramp at the Airport was a national "first."*

Tenants have invested more than \$25,000,000 in improvements with approximately \$9,000,000 having been invested during the last 12 months.

The Airport provides employment for over 12,500, mostly by airlines, with an annual payroll of approximately \$80,000,000.

Many air carriers and related industries have leased unimproved acreage for the development of maintenance and repair facilities. Among the tenants in this category are: United Air Lines, American Airlines, Trans World Airlines, Pan American World Airways, Qantas Empire Airways, Pacific Air Lines, Flying Tiger Line, Rick Helicopters.

One of the year's interesting developments which pointed up the ever-growing demand for first-class facilities to serve the Airport's customers was the opening in June of the \$2,500,000 Hilton Inn. A 300-room structure, modern in every respect, with restaurants, a swimming pool, it is the first of a group of Inns planned by Hilton Hotels Corporation for other major United States airports.

#### INTERNATIONAL AIRPORT BUDGET BRIEFS

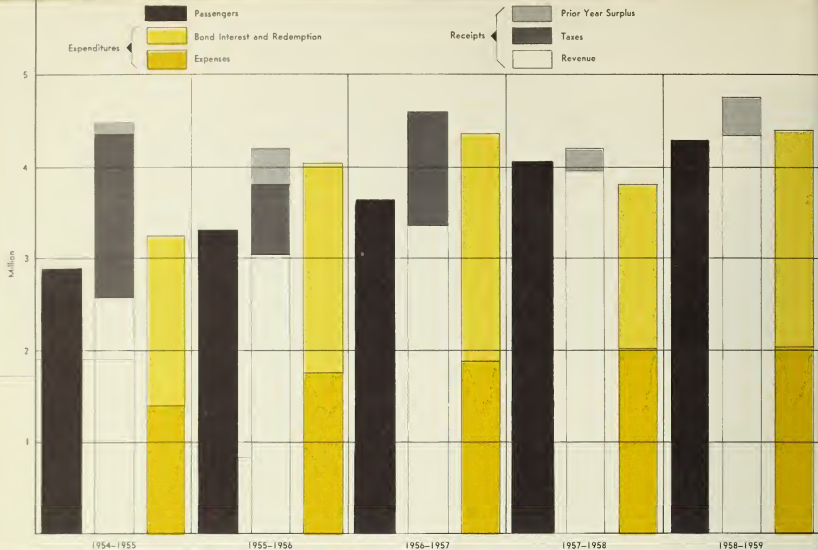
##### RECEIPTS

Revenues .....	\$4,336,039.34
Surplus .....	441,250.80
	<hr/>
	\$4,777,290.14

##### EXPENDITURES

Operations .....	\$2,070,012.17
Bond Interest and Redemption .....	2,330,336.55
	<hr/>
	\$4,400,348.72

SURPLUS .....	\$ 376,941.22
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## SPURTING GROWTH MARKED AIRPORT YEAR



The Public Utilities Commission and its staff are responsible for the administration and coordination of activities involving some 250 leases, permits, concession agreements, etc., at the Airport from which San Francisco derived operating revenues of \$4,336,039.34 during the past fiscal year.

This represented an increase in operating revenues of \$419,372.42 over the previous 12 months; at the same time, operating expenditures were held to an increase of \$80,000 and totaled \$2,070,012. (For details, see "Operating Revenues," below.)

Belford Brown, Manager, San Francisco International Airport

### AIRPORT OPERATING REVENUES

	1955-56	1956-57	1957-58	1958-59
Air Carrier Flight Operations	\$ 480,490	\$ 524,317	\$ 750,666	\$ 938,170
Public Address System	14,142	16,683	19,215	15,333
Rentals, Terminal Building	603,499	634,241	639,787	605,169
Rentals, Other	286,852	324,115	334,638	420,541
Concessions, Terminal Building	421,960	481,128	531,124	605,312
U-Drive Autos	148,716	241,907	300,828	410,854
Taxis and Limousines	135,788	150,807	159,840	176,674
Parking Lots, Meters	368,537	452,433	589,782	645,541
Auto Service Station	15,827	17,703	18,603	20,913
Agency Commissions	106,634	84,331	73,720	66,537
Other Income	420,631	407,793	498,464	429,995
<b>TOTAL</b>	<b>\$3,003,076</b>	<b>\$3,335,458</b>	<b>\$3,916,667</b>	<b>\$4,336,039</b>



*Assignment: Move more than 16,500,000 passengers every month to and from work, school, shopping, throughout a compact (45 square miles), heavily populated (estimated population, January 1, 1959: 821,000) City located on a billy peninsula.*

During the past fiscal year the Municipal Railway continued to accomplish this formidable transit assignment for San Francisco by sending 843 vehicles over 689 miles of scheduled routes every day, making more than 500,000 stops on 65 bus, trolley coach, streetcar and cable car lines.

Every weekday the vehicles of the "Muni"—the name by which the system is familiarly known—serve more than 655,000 passengers by traveling 90,000 miles. That's a daily distance equal to three times around the world!

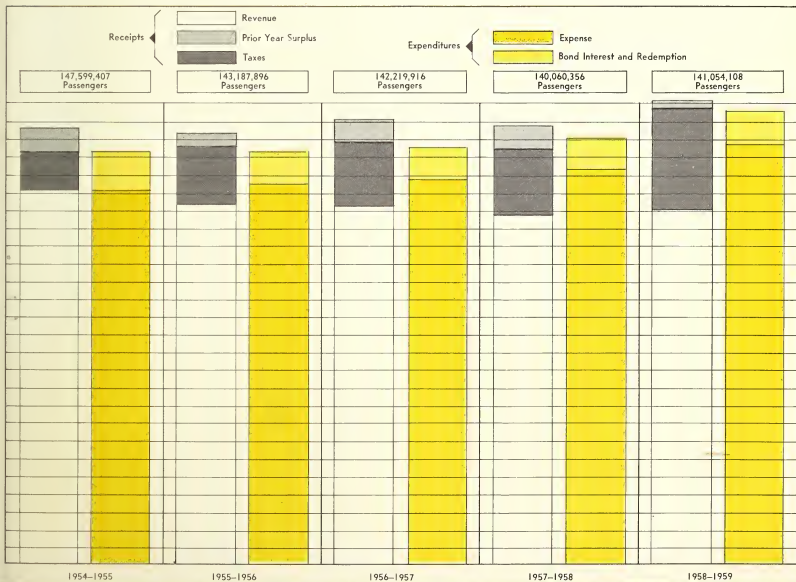
Passengers of the Muni are transported for a fare that is one of the country's biggest transit bargains—15 cents a ride. An extra bonus is the use of free transfers. It has been estimated that passengers save between six and seven million dollars a year by using transfers.

The national average fare, of small as well as large cities, is 18 cents for transit. In addition to San Francisco, only two other major cities—New York and Boston—charge a 15-cent fare. The basic fare is 20 cents in Detroit, Cleveland, Washington, D.C., Philadelphia and Oakland, with zone charges increasing that figure. It's 25 cents (Continued on Page 8)



◀ Charles D. Miller, General Manager of the Municipal Railway

## THE MUNICIPAL RAILWAY





# PUBLIC TRANSIT BY "MUNI"

(Continued from Page 7) in Chicago, St. Louis and Pittsburgh, while in Los Angeles it's 17 cents with added zone charges.

San Francisco's 15-cent fare results from the City's official policy to subsidize transit as a necessary and essential public service. The policy recognizes the Muni as a vital connecting link between the various districts and the downtown shopping and financial sections. This downtown area is small in size but giant in economic proportions since it comprises from 70 to 80 percent of San Francisco's tax base.

(It is interesting, and significant, too, to note that the Muni's tax subsidy for the past fiscal year was \$5,890,411; for the current 1959-60 year this amount decreased more than half a million dollars, to \$5,351,506.)

One extremely significant event of the 1958-59 year was an increase in revenue passengers using the Muni of almost one million. This was the first time since the war-time peak year of 1945-46 that there was not a decrease in revenue passengers.

The pick-up in Muni passengers was in sharp contrast to the national decline trend, and the principal explanation for this happy transit phenomenon in San Francisco could best be found in the growing realization of more and more people that the "smart choice" for intra-city transportation is public transit.

A recent comprehensive City Planning Commission report stated that a typical San Franciscan saves between \$30 and \$50 a month by riding the Muni to work instead of using his own car and parking in a downtown garage.

Also to be considered by the San Franciscan in making a choice between private automobile and the Muni is the increasing loss of time and fraying of nerves that inevitably stem from downtown congestion.

## MUNICIPAL RAILWAY BUDGET BRIEFS

### RECEIPTS

Revenues	\$19,841,589
Other Income	236,342
Prior Year's Surplus	357,334
Taxes	5,890,411
	<hr/>
	\$26,325,676

### EXPENDITURES

Platform Wages	\$ 9,260,783
Bond Interest, Redemption	1,819,339
Other Expenses	14,293,338
Betterments	253,858
	<hr/>
	\$25,627,318

### SURPLUS

\$ 698,358





Actually, this congestion can reach insoluble magnitude, result in a bleak situation where the City—well past the point of no return—pays and pays, for more expressways, freeways, off-street parking facilities, for more transit subsidization.

(The American Society of Civil Engineers has described the increasing nation-wide traffic jam as "a malady menacing the cores of American cities, threatening the whole urban organism and causing an economic loss of \$2 billion a year.")

One Muni vehicle does the transportation job of from 36 to 40 autos—and there is just so much space available on downtown streets. Where the Muni moves on schedule, coming and going along a given route, the autos have to stop and park, somewhere, somehow. Thus, from the point of view of transit downtown, it becomes a question of what is the most important, people or autos?

More downtown business firms are cooperating in the surge to the Muni by initiating "staggered hours" for their employees. This is an arrangement of work schedules to allow employees to take advantage of public transit at the beginning or end of its "peak periods." Lengthening of these periods (largest traffic volume is from 7 to 9 a.m. and 4 to 6 p.m.) will allow the Muni to deliver faster, more efficient service with a minimum of congestion and crowding.

The increased patronage of the Muni the past year has resulted, too, from the system's competent management and operation. During the year 70 new diesel-powered Mack coaches were acquired under lease to bring the modern coach fleet up to 380. (Another 70 coaches, expected to arrive by early 1960, will bring the fleet up to a final total of 450.) The new coaches are the most modern in the industry, equipped with automatic transmissions and power steering which lessen the jerky operation of the old gasoline-powered buses, give patrons smoother riding.

There was an increase of almost one million revenue passengers using the Muni during the year—the first increase in this vital category since the war-time peak year of 1945-46.

## THE SAN FRANCISCO

Mayor Christopher has described the water supply system of San Francisco as the City's "*most precious utility asset.*"

It is an apt description. For the system—stretching some 167 miles from Tuolumne County in the High Sierra down to hundreds of thousands of faucets in the Bay Area—has proven a virtual "water lifeline" for the City and for those parts of San Mateo, Santa Clara and Alameda Counties served by the San Francisco Water Department.

The present system exists because an earlier generation of San Franciscans planned well and acted boldly when it created the great Hetch Hetchy water-power complex and acquired (in 1930) the old Spring Valley Water Company.

Over the years the people of San Francisco have spent more than \$400,000,000 on this lifeline that supplies their needs and the needs of their neighbors. Were replacement necessary, the cost, at today's prices, would exceed one billion dollars.

Much of the growth and development of the vast area served has resulted directly from the assurance of a water supply to match the unprecedented population increases of the past two decades.

During the fiscal year this upward trend was again underlined by the average of 157,621,132 gallons per day carried through the system's transmission mains to satisfy the total demand—an increase of more than 17,000,000 over the daily 140,540,904-gallon average carried during the preceding 12-month period.

Of this total, an average of 100,600,000 gallons per day was furnished the City consumption area, and the suburban consumption area was provided a daily average of 57,000,000 gallons.

It is significant to note that water used in the San Francisco consumption area increased 7 percent over the previous year, while suburban use jumped 22.6 percent.

The future does not pose any insurmountable problems, it was pointed out by Public Utilities Commission water authorities. Although present demands on the system have been as high as 246,000,000 gallons in one day (occurring on June 29, 1959), an increase of 9.8 percent above the previous peak daily consumption on June 24, 1957 of 224,100,000 gallons, addi-

With the Great Fire and Earthquake of 1906 still a sad shadow on the City's history, particular attention is given fire control in the design and operation of the water system.





# WATER DEPARTMENT

tional storage, pipelines and tunnels can bring the total to about 400,000,000 daily.

During the year the Water Department:

(1) Recommended, on the basis of a rate study by an outside consultant, against an increase in water rates. The Department reasoned, and the Commission concurred, that existing rates would result in sufficient revenue because of (a) greater water demands, (b) increased sale of power (see *Hetch Hetchy*, Page 14), (c) sale of surplus lands, and (d) decreasing funds needed for bond interest and redemption for past construction of water projects.

(2) Continued to discuss proposed long-term contracts for the sale of water with suburban customers. As the result of a conference held by the Commission with these customers, a new organization, "San Francisco Bay Area Water Users' Association," was formed to explore mutual problems relative to future deliveries of water. The Water Department became a member of the Association.

(3) Aggressively pursued, in keeping with its basic policy of providing a safe (Continued on Page 12)

*Pulgas Water Temple, marking the great Hetch Hetchy aqueduct's terminal in San Mateo County, stands as an enduring monument to the engineering feat that brought water from the Sierra.*



## WATER DEPARTMENT BUDGET BRIEFS

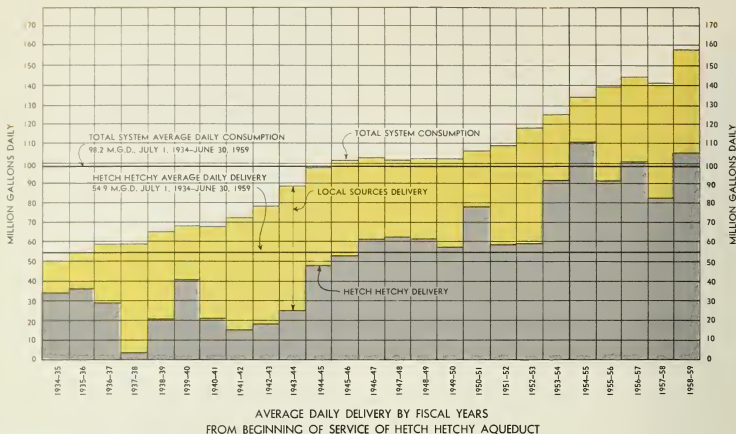
### RECEIPTS

Revenues .....	\$15,215,049
Prior Year's Surplus .....	757,725
	<hr/>
	\$15,972,774

### EXPENDITURES

Operations .....	\$ 5,786,575
Standby Charge, Purchase of	
Water—Hetch Hetchy .....	4,500,000
Bond Interest, Redemption .....	2,594,581
Betterments .....	1,668,043
	<hr/>
	\$14,549,199

SURPLUS .....	\$ 1,423,575
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## WATER QUALITY PROGRAM ADVANCED



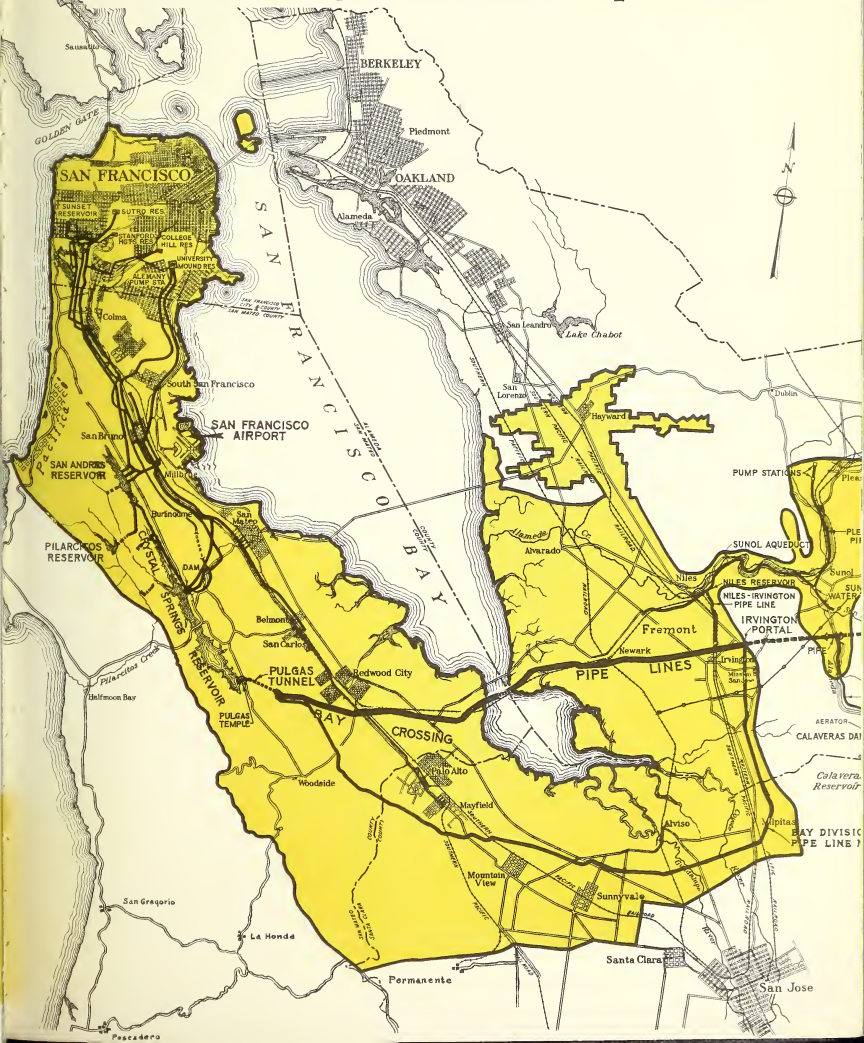
(Continued from Page 11) and potable supply to customers, a never-ending program of water quality improvement. This included installation of automatic chlorination stations, cleaning of distribution reservoirs, flushing of distribution mains, and the making of 31,768 laboratory and field tests during the year.

(4) Completed \$3,000,000 of construction work, the largest project being the lining and roofing of Sunset Reservoir's mammoth (87,200,000-gallon capacity) south basin. With 82 percent of the south basin completed by fiscal year's end, the facility was expected to be in service by early 1960.

James H. Turner, General Manager and Chief Engineer, S.F. Water Department

The Water Department has jurisdiction over 62,754 acres, mostly in San Mateo and Alameda Counties. Much of this property is leased for grazing and agricultural purposes, from which the Department received some \$330,800 for the fiscal year. A unique partnership project now being planned by San Francisco and the City of Pleasanton proposes the development of an industrial park on Department property.

# Area Served by S. F. Water Department







## HETCH HETCHY PROJECT: WATER AND

The Hetch Hetchy development is primarily a water supply project utilizing the precipitation and runoff of the upper Tuolumne River watershed, on the westerly slope of the Sierra Nevada Mountains. This supply supplements local sources for the domestic water used by the City of San Francisco and its suburban customers.

Electric energy generated by the falling water supplies all municipal needs, including the Airport, Municipal Railway and street lighting. In addition, this energy is served to the Turlock and Modesto Irrigation Districts to supplement their own power source, and to Permanente Cement Company and Kaiser Aluminum & Chemical Corporation in Santa Clara County.

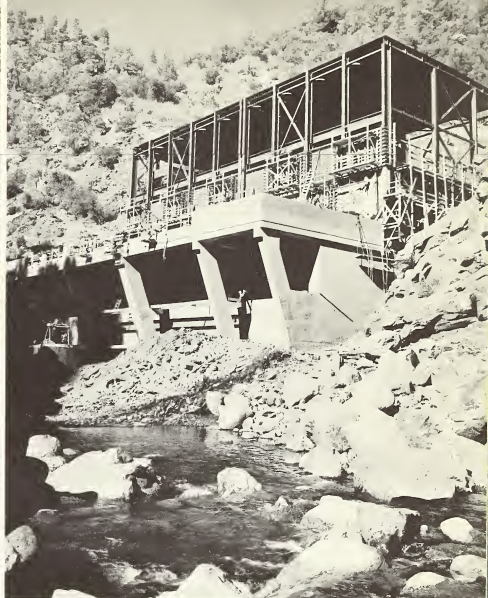
Revenue received from electric power sales and from the wholesale delivery of water to the San Francisco Water Department (for further transmission and ultimate distribution and sale to customers) makes the Hetch Hetchy Project, like the Water Depart-

ment, a self-supporting utility.

The power system is being further expanded by current construction of the Canyon-Cherry Power Development financed by the 1955 \$54,000,000 Hetch Hetchy Power Bonds. This expansion includes the addition of two new powerhouses (Cherry in the fall of 1960, Canyon in 1963) which will enlarge the present system's rated generating capacity (Mocasin Powerhouse, 70,000 kilowatts; Early Intake Powerhouse, 3,600 kilowatts) by more than three times.

Due to abnormal precipitation, the runoff on the Tuolumne River watershed—approximately 59 percent of normal—was the lowest since 1939. The seasonal total rainfall of Hetch Hetchy was 24.41 inches compared to an average seasonal total of 33.96 inches for the past 49-year period. (Rainfall in San Francisco amounted to 10.46 inches, 51 percent of normal—the driest year since 1897-98.)

Despite the dry year, however, the large carryover



## POWER FOR THE CITY

### HETCH HETCHY BUDGET BRIEFS

#### RECEIPTS

Standby Charge, Sale of Water—	
Water Department .....	\$ 4,500,000
Revenue from Sale of Power .....	5,362,290
Other Revenues .....	258,457
Prior Year's Surplus .....	245,613

\$10,366,360

#### EXPENDITURES

Operations .....	\$ 4,397,478
Bond Interest, Redemption .....	5,746,000
Betterments .....	58,740

\$10,202,218

**SURPLUS** ..... \$ 164,142

Cherry Power Project is shown in above picture strip across Pages 14 and 15: Lake Lloyd water (after being conveyed through a 6-mile pressure tunnel) will drop 2,400 feet through great pipes to the powerhouse, scheduled for operation in the fall of 1960.

storage in the reservoirs from the previous year—one of the wettest on record—enabled normal operation to be maintained.

During the fiscal year, 37,603,000,000 gallons of water were diverted through the Hetch Hetchy Aqueduct to the Water Department's service area. This makes a total of 492,292,000,000 gallons diverted from the Tuolumne River watershed since the Aqueduct was placed in operation in 1934. (See graph on Page 12.)

**WATER FROM THE SIERRA, 167 MILES AWAY**

# INCREASED WATER STORAGE PLANNED

Under agreements for cooperatively developing the Tuolumne River watershed, San Francisco, Modesto and Turlock Irrigation Districts, and the Corps of Engineers, U. S. Army, are studying feasibility of a large new dam (1,200,000 acre-feet reservoir capacity) on the Tuolumne near the Districts' present Don Pedro Dam.

As proposed, the project will provide necessary additional storage space for the City in lieu of constructing more expensive storage facilities in the upper watershed.

Harry E. Lloyd, *Manager and Chief Engineer of Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau, and the Bureau of Light, Heat and Power*



## UTILITIES ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission.

It has full charge of the Hetch Hetchy water supply and electric power system, and also performs engineering work for the SF International Airport and the Municipal Railway. The latter work includes planning and supervising all new construction for those utilities and provides engineering services in connection with maintenance and reconstruction of existing facilities.

Total value of construction work performed under the Bureau's direction during the fiscal year on the Hetch Hetchy Project, the Airport and the Municipal Railway was approximately \$14,500,000. At fiscal

year's end an additional \$17,000,000 of work was under construction.

The Bureau coordinated preparation of a master plan for the development of the Airport's terminal area complex during the year, and initiated studies relative to preparing a revised master plan for the entire Airport area.

In May, 1959, the Board of Supervisors appropriated \$125,000 for a San Francisco transit study in coordination with the survey by the SF Bay Area Rapid Transit District. The Utilities Engineering Bureau was selected to direct this study, which will involve preparation of preliminary plans, design and estimates for a local San Francisco transit system and will include recommendations as to the City's requirements in connection with the proposed SF Bay Area Rapid Transit System.

## BUREAU OF LIGHT, HEAT AND POWER

### LIGHT, HEAT AND POWER BUDGET BRIEFS

#### RECEIPTS

Transfer	\$ 2,631,603
Taxes	1,157,566
	<hr/>
	\$ 3,789,169

#### EXPENDITURES

Operations	\$ 3,788,787
Betterments	382
	<hr/>
	\$ 3,789,169

This Bureau combines the functions of a service bureau to provide for furnishing utility services for municipal purposes, with those of an operating bureau to provide for the lighting of public streets.

A total of 235,557,361 kilowatt-hours of electric energy generated by the Hetch Hetchy System was supplied municipal accounts (including street lighting) during the year, while the Pacific Gas and Electric Company under contract furnished 11,070,216 hundred-cubic-feet of natural gas and 1,547,100 pounds of steam. Total number of City-owned and PG&E-owned street lights at fiscal year's end was 28,592.

## ... IN SUMMARY

### CUSTOMER SERVICES

	1956-57	1957-58	1958-59*
Airport Passengers .....	3,684,830	4,046,524	4,275,675
Air Shipments (lbs.) .....	124,897,199	125,976,603	146,362,220
Transit Passengers (Revenue) .....	142,219,916	140,060,356	141,054,108
Kilowatt Hours Sold .....	619,000,000	615,325,275	678,900,000
Water Consumption (gal. daily) .....	142,963,090	140,540,904	157,621,132
Street Lights .....	28,287	28,357	28,592

### TAX SUBSIDY

Municipal Railway .....	\$ 3,495,329	\$ 3,452,414	\$ 5,890,411
International Airport .....	1,323,191	—	—
Light, Heat and Power .....	1,172,369	1,171,906	1,157,567

### BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION

Hetch Hetchy .....	\$134,965,543	\$134,589,721	\$134,655,162
Water Department .....	105,109,656	105,921,737	107,069,949
Municipal Railway .....	38,710,833	36,702,739	35,705,737
International Airport .....	50,505,896	50,588,264	54,059,140
Light, Heat and Power .....	3,883,332	3,884,728	3,888,973
PUC Gen'l Office .....	15,394	18,343	18,385

### TOTAL

\$333,190,654	\$331,705,532	\$335,397,346
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### TAXES PAID TO OUTSIDE JURISDICTIONS

Water Department .....	\$ 724,424	\$ 807,182	\$ 911,098
International Airport .....	71,574	74,008	81,629
Hetch Hetchy .....	23,033	24,335	26,778

### SALARIES AND RELATED WAGE BENEFITS

Municipal Railway .....	\$ 15,930,997	\$ 16,211,331	\$ 16,655,831
Water Department .....	2,572,909	2,908,228	3,723,160
Hetch Hetchy .....	1,117,036	1,195,336	1,221,642
International Airport .....	1,187,967	1,271,160	1,336,135
Light, Heat and Power .....	115,868	113,687	95,641

### NUMBER OF EMPLOYEES

Municipal Railway .....	2,751	2,786	2,831
Water Department .....	513	515	522
Hetch Hetchy .....	231	255	263
International Airport .....	166	170	168
Light, Heat and Power .....	17	16	14
PUC Gen'l Office .....	24	23	23
	3,702	3,765	3,821

\* All figures subject to final audit.

*This Annual Report designed by the studio of Donald G. Clever • Edited by Bureau of Public Service, PUC • Graphs and Maps by Charles L. Reed, PUC Artist • Photography under direction of Marshall Moxom, PUC Photo Lab • Photograph on front cover and inside back cover courtesy San Francisco Chamber of Commerce • Photograph on Page 11 courtesy San Francisco Fire Department • Lithography by the James H. Barry Company.*

Additional copies of this Annual Report of the Public Utilities Commission may be obtained from the Bureau of Public Service Room 287, City Hall, San Francisco 2, California.





**SAN  
FRANCISCO  
PUBLIC  
UTILITIES  
COMMISSION**



**ANNUAL  
REPORT  
1959 - 1960**

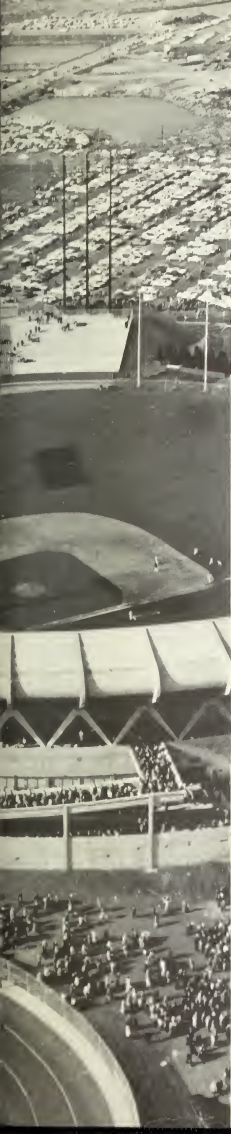
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Important changes occurred on both Commission and staff levels during the year. Daniel F. Del Carlo, who had served a total of eight years as a Public Utilities Commissioner, resigned to accept appointment to the State Industrial Accident Commission. He was succeeded by Thomas P. White, formerly a City Planning Commissioner. . . . Two veteran members of the Utilities family retired at fiscal year's end: Charles D. Miller, Municipal Railway General Manager (See Page 7); and Robert J. Macdonald, long-time Commission Secretary (See Page 17).

Significant new passenger records were established by the SF International Airport and the Municipal Railway: For the first time in its dramatic growth history, more than five million passengers boarded or deplaned at the Airport; for the second consecutive year since the 1945-46 war-time peak, the Municipal Railway showed an increase of one million revenue passengers, thus continuing to be a striking exception to the national transit trend.

## HIGHLIGHTS OF THE YEAR

Scoring during the year with new passenger traffic and air shipment records, the Airport continued another proud record by operating without tax subsidy for the third consecutive year in its 33-year history. The Water Department and Hetch Hetchy are traditionally self-supporting; the Municipal Railway is tax-supported to maintain the 15-cent transit fare in San Francisco.

**Public plaudits galore** were received by the Municipal Railway for its fine servicing of the City's beautiful new Candlestick Park, home of the San Francisco Giants. An average of 20 percent of the season's total attendance rode the Muni's express and local lines to and from the games.

In keeping with its basic policy of providing a safe, potable supply to customers, the Water Department stepped up its never-ending water quality improvement program by making 43,518 laboratory and field tests during the year (up from 31,768 tests made the previous year), continued its program of cleaning and covering distribution reservoirs, flushing distribution mains, installing automatic chlorination stations.

Scope of the Utilities vast operations was reflected in \$1,096,185 taxes paid jurisdictions outside San Francisco (Tuolumne, Mariposa, Stanislaus, San Joaquin, Alameda, Santa Clara and San Mateo Counties) for the Water Department (\$962,425), Airport (\$88,354), and Hetch Hetchy (\$45,406).

More than \$15,430,000 construction work was performed in the various Utilities during the year, including the virtual completion of the giant Cherry Power Project (See Picture, Page 14), lining and covering of Sunset Reservoir's big south basin, two new cargo buildings at the Airport. At year's end, an additional \$3,400,000 of work was under construction.

Biggest sale of San Francisco-owned real estate in history was consummated in March when the Water Department's 100-acre Silva Tract, stretching ribbon-like through the City of Millbrae from the Skyline to El Camino Real, was purchased for a total of \$1,590,000. The sale, result of cooperative efforts by Millbrae and San Francisco, presaged a formidable residential and commercial development boom for Millbrae, headquarters for the Water Department's Peninsula Division.

Since January 1, the Water Department has been operating under a modernized and revised rate structure, first complete revision since 1945. Applying primarily to commercial, industrial and resale customers, the revisions provide for minimum billing, new service installation and demand charges. Water rates to residential customers were not increased.



GEORGE CHRISTOPHER, Mayor of San Francisco.

## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Shown during a recent PUC meeting are (left to right): Commissioner THOMAS P. WHITE, Secretary-Treasurer of Local 860, Warehouse Union; Vice President EDWARD B. BARON, retired theater owner; President JOSEPH MARTIN, JR., attorney; Commissioner STUART N. GREENBERG, President and Owner, M. Greenberg's Sons Brass Foundry and Machine Works; Commissioner DON FAZACKERLEY, General Manager of The San Francisco Shopping News Company.

### BOARD OF SUPERVISORS

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ROBERT C. KIRKWOOD  
Manager of Utilities



THOMAS M. O'CONNOR  
Public Utilities Counsel

## PUBLIC UTILITIES FACT SHEET

CUSTOMER SERVICES	1957-58	1958-59	1959-60*
Airport Passengers . . . . .	4,046,524	4,275,675	5,017,479
Air Shipments (pounds) . . . . .	125,976,603	146,362,220	158,503,602
Transit Passengers (revenue) . . . . .	140,060,356	141,054,108	142,094,969
Kilowatt Hours Sold . . . . .	615,325,275	678,900,000	853,300,000
Water Consumption (gallons daily) . . . . .	140,540,904	157,621,132	167,835,295
Street Lights . . . . .	28,357	28,592	28,830
BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION			
Hetch Hetchy . . . . .	\$134,589,721	\$134,655,162	\$134,149,330
Water Department . . . . .	105,921,737	107,069,949	111,195,622
Municipal Railway . . . . .	36,702,739	35,705,737	32,800,607
International Airport . . . . .	50,588,264	54,059,140	55,359,573
Light, Heat and Power . . . . .	3,884,728	3,888,973	3,889,687
TOTAL . . . . .	\$331,687,189	\$335,378,961	\$337,394,819
TAX SUBSIDY			
Municipal Railway . . . . .	\$ 3,452,414	\$ 5,890,411	\$ 5,351,506
Light, Heat and Power . . . . .	1,171,906	1,157,567	1,178,403
TAXES PAID TO OUTSIDE JURISDICTIONS			
Water Department . . . . .	\$ 807,182	\$ 911,098	\$ 962,425
International Airport . . . . .	74,008	81,629	88,354
Hetch Hetchy . . . . .	24,335	26,778	45,406
SALARIES AND RELATED WAGE BENEFITS			
Municipal Railway . . . . .	\$ 16,211,331	\$ 16,655,831	\$ 17,219,201
Water Department . . . . .	2,908,228	3,723,160	3,976,955
Hetch Hetchy . . . . .	1,195,336	1,221,642	1,340,974
International Airport . . . . .	1,271,160	1,336,135	1,409,876
Light, Heat and Power . . . . .	113,687	95,641	85,939
NUMBER OF EMPLOYEES			
Municipal Railway . . . . .	2,786	2,831	2,715
Water Department . . . . .	515	522	520
Hetch Hetchy . . . . .	255	263	280
International Airport . . . . .	170	168	171
Light, Heat and Power . . . . .	16	14	12
PUC General Office . . . . .	23	23	24
TOTAL EMPLOYEES . . . . .	3,765	3,821	3,722

\*All figures subject to final audit.

## ORGANIZATION OF THE UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco.

These utilities are the SF International Airport, the SF Municipal Railway, the SF Water Department, the Hetch Hetchy Project, Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Service.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the utilities. Department and bureau heads are responsible to the Manager of Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the 12-month period beginning July 1, 1959 and ending June 30, 1960.



San Francisco has been America's principal port of entry and departure for the vast Pacific Basin and the Far East for more than 100 years. The City's growth—and, indeed, the growth of the entire Bay Area and of Northern California—has been geared to its deep-water history. But during the past three decades San Francisco and the area it serves have felt the explosive impact of a tremendous new growth factor—the “coming of age” of commercial aviation.

The City—its lifeblood commerce—responded to the challenge by constructing one of the world's great airports on the mudflats of San Francisco Bay in northern San Mateo County. So, with its present facility equipped to meet the demands of jet-winged aircraft, with renewed emphasis on expansion plans to meet the rapidly approaching requirements of the future, San Francisco International Airport continues the City's historical “international gateway” position in the wonderful Age of Air.

## SAN FRANCISCO INTERNATIONAL AIRPORT

During the past year the Airport maintained its position as the nation's fifth major hub of air passenger traffic, accommodating more than 3.5 percent of all passengers carried on scheduled domestic airlines throughout the United States. (See *Graph, "Passenger Traffic", Page 6.*) Thirteen scheduled airlines utilize the Airport in providing service to all parts of the world, averaging a landing and take-off every three minutes every day in handling in excess of 13,000 passengers daily. They are: American Airlines, British Overseas Airways, Flying Tiger Line, Japan Air Lines, Lufthansa German Airlines (which inaugurated service between San Francisco and Germany May 14, 1960), Pacific Air Lines, Pacific Southwest Airlines, Pan American World Airways, Qantas Empire Airways, Trans World Airlines, United Air Lines, West Coast Airlines and Western Airlines.

A completely self-sufficient city in itself—as exciting and cosmopolitan as the City whose name it bears—the Airport is uniquely equipped to serve its burgeoning population of transients.

Every need of the air traveler has been provided for in the distinctive, functional terminal building—from the Federal Government's myriad navigational aids required for the safe flow of traffic, as well as Customs, Immigration, Public Health, Weather Bureau and Post Office services, to an inviting medley of restaurants and bars (including the famed International Room on the third floor), shops, banking, insurance, parking and rent-a-car services, even to special nursery accommodations for mothers with small children. In addition there is the beautiful new \$2,500,000 300-room Hilton Inn which completed its first successful year of operation during the period covered by this report.

Preparing to meet the constant challenges posed by commercial aviation's dynamic growth, the Airport is swiftly proceeding with a massive development of the terminal area. Highly imaginative as well as thoroughly practical, the master plan calls for the addition of two sub-terminal arms to the existing terminal building, with a huge, multi-level parking facility filling in the oval to be formed by the complex. The first sub-terminal will be completed in 1963, the second by 1970.

Air express and freight traffic have soared 149 percent in the last eight years. (See *Graph, "Air Express and Freight", Page 6.*) With a continuation of this vast increase anticipated in the next five years, San Francisco has moved far ahead toward the concept of an “Air Cargo City” at the Airport—an area where special industrial plants will be constructed for processing and manufacturing materials for transshipment. Meanwhile, three large airmail and cargo buildings have been placed in operation; a fourth is planned for early construction.

The Airport's spectacular growth has resulted in an impressive impact on the economy of the entire Bay Area. San Francisco's capital investment as of June 30, 1960, amounted to \$55,500,000. Tenants have invested an additional \$35,000,000-plus, including United Air Lines' giant maintenance base. The Airport provides employment for more than 12,000 persons with an annual payroll of \$75,000,000, of which \$57,382,000 is distributed in Peninsula cities where most Airport employees live. Besides its economic effect in terms of payroll, the Airport represents the greatest concentration of taxable wealth available to San Mateo County in which it is located.

During the year, in response to problems posed to neighboring communities by the noise of the big new jet aircraft, the SF International Airport Sound Abatement Committee was formed by the Public Utilities Commission, the airlines, airline pilots, FAA and the Air Transport Association. Purpose of this committee is to analyze the jet noise problem and to apply remedial measures.

## ONE OF WORLD'S GREAT AIRPORTS CONSTRUCTED ON MUDFLATS OF BAY





# INTERNATIONAL AIRPORT BUDGET BRIEFS

## RECEIPTS

Revenues . . . . .	\$5,554,901
Surplus . . . . .	640,453
	<u>\$6,195,354</u>

## EXPENDITURES

Operations . . . . .	\$2,459,255
Bond Interest and Redemption . . . . .	2,316,684
Betterments . . . . .	221,911
	<u>\$4,997,850</u>

SURPLUS . . . . .	\$1,197,504
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## AIRPORT OPERATING REVENUES

	1956-57	1957-58	1958-59	1959-60
Air Carrier Flight Operations . . . . .	\$ 524,317	\$ 750,666	\$ 938,170	\$1,148,275
Public Address System . . . . .	16,683	19,215	15,333	13,655
Rentals, Terminal Building . . . . .	634,241	639,787	605,169	749,016
Rentals, Other . . . . .	324,115	334,638	420,541	516,841
Concessions, Terminal Building . . . . .	481,128	531,124	604,646	723,228
U-Drive Autos . . . . .	241,907	300,828	401,854	518,754
Taxis and Limousines* . . . . .	150,807	159,840	176,674	213,378
Parking Lots, Meters . . . . .	452,433	589,782	646,541	748,851
Auto Service Stations . . . . .	17,703	18,603	20,913	25,517
Hotel . . . . .	—	—	666	94,046
Agency Commissions . . . . .	84,331	73,720	66,537	62,423
Other Income . . . . .	407,793	498,464	429,995	738,917
TOTAL . . . . .	\$3,335,458	\$3,916,667	\$4,336,039	\$5,554,901



BELFORD BROWN  
Manager, San Francisco  
International Airport

## NEW PASSENGER, AIR CARGO RECORDS MADE

			(pounds)
1959-60	5,017,479	1959-60	111,986,915
1958-59	4,275,675	1958-59	103,177,998
1957-58	4,046,524	1957-58	88,273,800
1956-57	3,684,830	1956-57	89,486,910
1955-56	3,282,444	1955-56	75,366,072
1954-55	2,879,366	1954-55	57,184,920
1953-54	2,478,366	1953-54	46,694,469
1952-53	2,387,337	1952-53	44,830,031

PASSENGER TRAFFIC

AIR EXPRESS AND FREIGHT

## THE SAN FRANCISCO MUNICIPAL RAILWAY



CHARLES D. MILLER  
General Manager,  
Municipal Railway

Charles D. Miller, San Francisco's great man of transit, retired as General Manager of the Municipal Railway June 1, 1960. He was succeeded by Vernon W. Anderson, former superintendent of traffic.

Miller's retirement brought to a close more than half a century of transit service in San Francisco. Born May 14, 1890, he began as a cable car repairman at the age of 18. He is a second generation San Francisco street railway man, his father having been a master mechanic on the old Omnibus Railway. He went over to the Market Street Railway in 1923 and was superintendent of equipment when that system was purchased by the City in 1944. In 1951 he was appointed General Manager.

Charlie Miller's blunt talk and direct action in achieving innovation after innovation during the last nine years made him something of a legend in the utilities family. On retirement, "Miller of the Muni" and his wife took a busman's holiday in Europe—inspecting the transit systems from Metro to Monorail.

### MUNICIPAL RAILWAY BUDGET BRIEFS

RECEIPTS	1955-1956	1956-1957	1957-1958	1958-1959	1959-1960
Revenues . . . . .	\$ 20,470,119	\$ 20,237,823	\$ 19,896,893	\$ 19,841,589	\$ 19,957,029
Other Income . . . . .	51,478	65,074	35,078	236,342	82,287
Prior Year's Surplus . . . . .	743,078	1,134,602	1,009,495	357,334	849,777
Taxes . . . . .	3,102,691	3,496,941	3,455,358	5,890,411	5,351,506
	<u>\$ 24,367,366</u>	<u>\$ 24,934,440</u>	<u>\$ 24,396,824</u>	<u>\$ 26,325,676</u>	<u>\$ 26,240,599</u>
EXPENDITURES					
Platform Wages . . . . .	\$ 8,711,014	\$ 8,726,588	\$ 9,041,943	\$ 9,260,783	\$ 9,429,416
Bond Interest, Redemption . . . . .	1,599,000	1,814,418	1,826,756	1,819,339	1,668,758
Other Expenses . . . . .	13,029,638	13,104,931	13,264,609	14,293,338	13,988,298
Betterments . . . . .	—	—	—	253,858	45,676
	<u>\$ 23,339,652</u>	<u>\$ 23,645,937</u>	<u>\$ 24,133,308</u>	<u>\$ 25,627,318</u>	<u>\$ 25,132,148</u>
SURPLUS . . . . .	\$ 1,027,714	\$ 1,288,503	\$ 263,516	\$ 698,358	\$ 1,108,451
REVENUE PASSENGERS . . . . .	143,187,896	142,219,916	140,060,356	141,054,108	142,094,969



## SAN FRANCISCO "MUNI"

During the past year the Municipal Railway—to San Franciscans it's the "Muni"—continued to accomplish one of the nation's most formidable daily transit assignments by carrying more than 650,000 riders on an average weekday over 689 miles of scheduled routes on 60 bus, trolley coach, streetcar and cable car lines. During the peak period on weekdays, 842 transit vehicles were scheduled out of a regular fleet of 933.

Total vehicle miles traveled by the Muni for the year was 26,573,951, which—to use a not unlikely comparison—is a distance equal to 110 trips to the moon.

Gains in passengers carried and passenger revenues for the second consecutive year indicated that the 15-year post-war national downward trend in the use of public transit has leveled off in San Francisco. Revenues (\$19,957,029) were the highest since 1956-57, and total passengers—including transfers—topped the 200,000,000 mark for the first time in five years. Revenue passengers totaled 142,094,969, over a million more than the previous year. Some 48,000,000 passengers took advantage of the system's free transfer policy.

A Muni ride was still one of the country's biggest transit bargains. Although the year saw an increasing number of major cities hike their fares to 20- and 25-cents—and, in some instances to 30-cents—San Franciscans continued to ride over the hilly physique of their 45-square-mile City for a 15-cent fare.

TRANSIT ASSIGNMENTS



Cheers and boos alternately ricocheted within the beautiful bowl of Candlestick Park, home of the San Francisco Giants, during the year. But whether the Giants won or lost, the Muni's reliable vehicles earned constant plaudits from the baseball fans by providing fast and efficient service to the Park.

While the 15-cent fare does not cover the cost of the ride, its retention is based on a policy recognizing that fare as the least cost solution to the City's overall traffic problem. This policy recognizes the Muni as a vital connecting link between the various districts and the downtown shopping and financial sections. And, although small in size, the downtown area is giant in economic proportions since it comprises from 70 to 80 percent of San Francisco's tax base. The tax subsidy for the fiscal year covered in this report was \$5,351,506, as compared to \$5,890,411 for the preceding year. (See *Muni Budget Briefs*, Page 7.)

The year saw the last 70 of a fleet of 450 modern 48-passenger diesel-powered Mack buses placed in operation on Muni lines. This completed the replacement program started five years ago under a lease arrangement with Mack Truck Company.

Another major accomplishment of the year was the scheduling and inauguration of special service to Candlestick Park for day and night games played by the San Francisco Giants. The location of the stadium in the extreme southeastern section of the City presented a number of problems which were solved by months of advance planning with other City departments. One hundred of the older type gasoline buses were retained as a reserve fleet for Candlestick service.

The success of this operation—an average of approximately 20 percent of the baseball fans rode the Muni to and from the games—has attracted considerable attention from transit and traffic people nationally.

**OVER MORE THAN 16,500,000 PASSENGERS EVERY MONTH**

## SAN FRANCISCO WATER DEPARTMENT

A birthday of unusual significance to San Francisco and the Bay Area was celebrated March 3, 1960, in the lobby of the Water Department building, 425 Mason Street, when delightfully surprised customers were greeted with a festive decor and slices from a giant birthday cake. The cake—gift of the hotel and restaurant division of City College of San Francisco—was adorned with a sculptured sugar replica of famed Pulgas Temple, western terminus of the great Hetch Hetchy system which brings water 167 miles from the Sierra, and which serves as the Water Department's symbol.

And on this occasion—the 30th anniversary of the City's purchase for \$41,000,000 of the privately-owned Spring Valley Water Company in 1930—Mayor George Christopher pointed with pride to the water utility's record of efficient, economic management and operation:

- 1) Keeping pace with the tremendous population growth both in the City and the suburban area it serves (San Mateo, northern Santa Clara and southern Alameda Counties), the Water Department now distributes more than three times as much water as it did 30 years ago.
- 2) In defiance of the national inflationary trend of recent years, rates for the smallest block of water are 10 percent less today than in 1930.

Thirty years ago the water system's average consumption was 52,200,000 gallons per day. For the past fiscal year it was 167,835,295. And implicit in those two totals is the dramatic story of unprecedented Bay Area growth and the equally dramatic story of the Water Department's continuously expanding service program which made the growth possible.

Popcorn consumed in awesome quantities leads to thirst. This line-up of young water customers at the City Mouse Water Fountain was photographed at San Francisco's wonderful Storyland playground.





The City's average daily consumption 30 years ago was 48,900,000 gallons. Last year it was 104,440,232 gallons per day. Even more spectacular is the growth in average daily consumption in the suburban area outside the City where water is sold at wholesale rates—from 3,300,000 gallons 30 years ago to 63,395,063 last fiscal year. It is significant to note that water used in the City's consumption area during 1959-60 increased 3.8 percent over the previous year, while suburban use jumped 11.2 percent. And where City growth is leveling off, population increases in the neighboring communities of the suburban area are predicted to continue annually at from 7 to 10 percent. (See Graph, Page 12, Map, Page 13.)

Like its sister utility, the Hetch Hetchy Project, the Water Department has been entirely supported from revenues over the years and has never required a tax subsidy. During this period, its revenue increased from \$6,630,389 in 1930-31 to \$16,172,113 in 1959-60, its service connections increased from 111,000 to 156,000, and its physical plant grew in response to the constant demands of its service area for pure, potable water.

The future poses no insurmountable problems. Although present demands on the system have been as high as 274,000,000 gallons in one day (June 2, 1960)—an increase of 11.4 percent above the previous peak daily consumption (June 29, 1959) of 246,000,000 gallons—additional storage, pipelines and tunnels can bring the total to about 400,000,000 daily.

During the past fiscal year \$1,735,000 of construction work was completed, the largest project being the lining and roofing of Sunset Reservoir's mammoth (87,300,000-gallon capacity) south basin.

## **WATER RATES REDUCED, CONSUMPTION TRIPLED OVER 30 YEAR PERIOD**





# WATER DEPARTMENT BUDGET BRIEFS

## RECEIPTS

Revenues . . . . .	\$16,172,113
Prior Year's Surplus . . . . .	1,682,725
	<u>\$17,854,838</u>

## EXPENDITURES

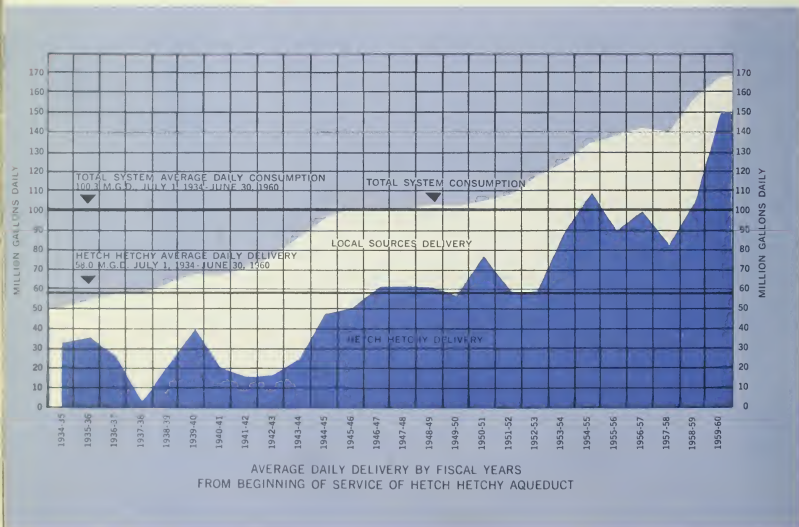
Operations . . . . .	\$ 6,246,127
Standby Charge, Purchase of Hetch Hetchy Water . . . . .	4,500,000
Bond Interest, Redemption . . . . .	2,534,097
Betterments . . . . .	2,188,138
	<u>\$15,468,362</u>

SURPLUS . . . . .	\$ 2,386,476
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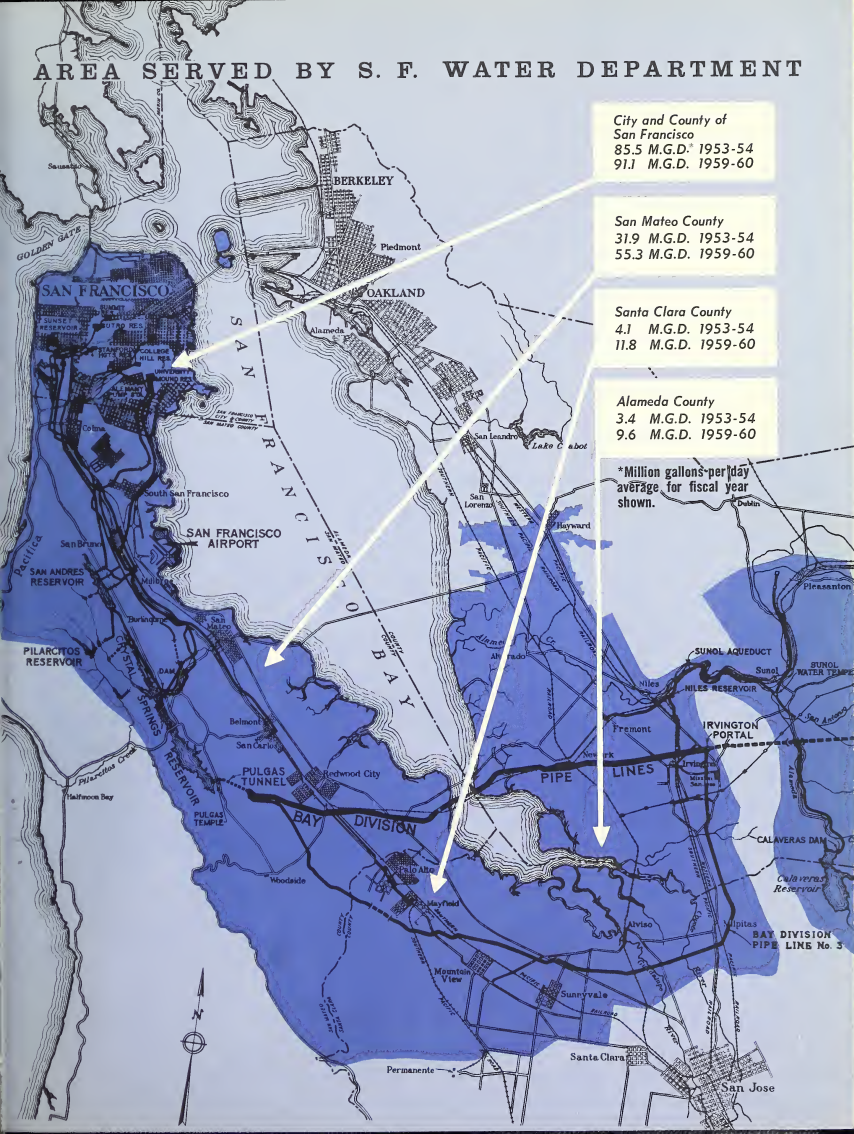
**JAMES H. TURNER**  
General Manager  
and Chief Engineer,  
S. F. Water Department



## WATER SUPPLY MEETS GROWTH DEMANDS



# AREA SERVED BY S. F. WATER DEPARTMENT



City and County of  
San Francisco  
85.5 M.G.D. 1953-54  
91.1 M.G.D. 1959-60

San Mateo County  
31.9 M.G.D. 1953-54  
55.3 M.G.D. 1959-60

Santa Clara County  
4.1 M.G.D. 1953-54  
11.8 M.G.D. 1959-60

Alameda County  
3.4 M.G.D. 1953-54  
9.6 M.G.D. 1959-60

\*Million gallons-per-day  
average for fiscal year  
shown.





# HETCH HETCHY BUDGET BRIEFS

## RECEIPTS

Standby Charge, Sale of Water to Water Department . . . . .	\$4,500,000
Revenue from Sale of Power . . . . .	6,593,187
Other Revenues . . . . .	87,368
Prior Year's Surplus . . . . .	853,230
	<hr/>
	\$12,033,785

## EXPENDITURES

Operations . . . . .	\$5,560,795
Bond Interest and Redemption . . . . .	5,860,356
Betterments . . . . .	44,967
	<hr/>
	\$11,466,118

SURPLUS . . . . .	\$ 567,667
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The Hetch Hetchy development is primarily a water supply project utilizing the precipitation and runoff of the upper Tuolumne River watershed, on the westerly slope of the Sierra Nevada Mountains. This supply supplements local sources in San Mateo and southern Alameda Counties for the domestic water used by San Francisco and its suburban customers. (See Map, Page 13.)

The development is being carried out under a long established master plan, in cooperation with the Modesto Irrigation District, the Turlock Irrigation District and the Corps of Engineers, US Army, which calls for an ultimate diversion from the Tuolumne River watershed of not less than 400,000,000 gallons daily. The present delivery of Hetch Hetchy water to the Bay Area is limited by the capacity of its two existing San Joaquin pipe lines to 160,000,000 gallons daily.

Hydroelectric energy generated by Hetch Hetchy power plants supplies all municipal needs, including SF International Airport, Municipal Railway and street lighting. Power is also served the Turlock and Modesto Irrigation Districts to supplement their own power source, as well as to two industrial customers —Permanente Cement Company and Permanente Metals Corporation in Santa Clara County.

Revenue from electric power sales and from the wholesale delivery of water to the SF Water Department —for further transmission and ultimate distribution and sale to customers—makes the Hetch Hetchy Project, like the Water Department, a self-supporting utility.

The power system is being expanded by current construction of the Cherry-Canyon Power development financed by a \$54,000,000 power bond issue authorized by San Francisco voters in 1955. The first of these projects—the Cherry—was virtually completed at fiscal year's end. With actual construction started in 1957, this project includes a 6-mile-long unlined pressure tunnel which brings water from Lake Lloyd and Lake Eleanor, a mammoth steel penstock down which the water is dropped 2400 feet to a point on the Cherry River near its confluence with the Tuolumne River, and a powerhouse at that location with a rated generating capacity of 135,000 kilowatts. (Cherry Powerhouse, shown at left, was scheduled to be completed with both of its two big generators putting power "on the line" by mid-September, 1960.) Construction of the Canyon Power Project is expected to start in 1961, with 1963 as the target year for completion.

When Cherry joins San Francisco's family of mountain powerhouses—Moccasin (70,000 kilowatts) went into operation in 1925, the comparatively tiny Early Intake (3,600 kilowatts) in 1918—the system's total generating capacity will be nearly tripled. When the Canyon (67,500 kilowatts) is completed, the system's total generating capacity will be increased to more than 276,000 kilowatts.

The precipitation on the Tuolumne River watershed for the fiscal year was subnormal for the second consecutive 12-month period, with 26.10 inches for the seasonal total precipitation at O'Shaughnessy Dam compared to an average seasonal total of 33.82 inches for the past 50-year period. Consequently, the total runoff on that portion of the mountain watershed supplying San Francisco's reservoirs was approximately 65 per cent of normal.

Because of the low runoff, it was not necessary at any time during the year to release water from any of the reservoirs for flood control as provided for under agreement with the Corps of Engineers, US Army.

During the year, 58,378,000,000 gallons of water were diverted from the Tuolumne River watershed through the Hetch Hetchy Aqueduct to the Water Department's service area. This makes a total of 550,670,000,000 gallons diverted since the Aqueduct was placed in operation in 1934.

## THE HETCH HETCHY PROJECT: WATER AND POWER FOR THE CITY



HARRY E. LLOYD, General Manager and Chief Engineer, Hetch Hetchy Project, Utilities Engineering Bureau, and Bureau of Heat, Light and Power

## LIGHT, HEAT AND POWER BUDGET BRIEFS

### RECEIPTS

Transfers . . . . .	\$3,055,165
Taxes . . . . .	1,178,403
	<u>\$4,233,568</u>

### EXPENDITURES

Operations . . . . .	\$4,232,855
Betterments . . . . .	713
	<u>\$4,233,568</u>

## BUREAU OF LIGHT, HEAT AND POWER

The Bureau of Light, Heat and Power combines the functions of a service bureau, to provide for furnishing utility services for municipal purposes, with those of an operating bureau, to provide for the lighting of public streets in San Francisco.

A total of 252,584,748 kilowatt-hours of electric energy generated by the Hetch Hetchy System was supplied municipal accounts (including street lighting and traffic devices) during the year, while the Pacific Gas and Electric Company furnished under contract 13,524,224 hundred-cubic-feet of natural gas and 1,556,000 pounds of steam. The total number of City-owned, PG&E-owned and jointly-owned street lights at fiscal year's end was 28,830.

## UTILITIES ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission. (An exception is the SF Water Department, which has its own engineering division). It has full charge of the Hetch Hetchy water supply and electric power system, also performs engineering work for the SF International Airport and the Municipal Railway. The latter includes planning and supervising all new construction for those three utilities and the provision of engineering services in connection with maintenance and reconstruction of existing facilities.

Total value of construction and work performed under the Bureau's direction during the year on the Hetch Hetchy Project, the Airport and the Municipal Railway was approximately \$13,700,000. At fiscal year's end an additional \$3,200,000 of work was under construction. The Bureau coordinated preparation of plans for a new terminal at the Airport during the year, and continued studies which will lead to a revised master plan for the entire Airport area.

A San Francisco transit study—for which the Board of Supervisors had appropriated \$125,000—was completed in June, 1960, under the direction of the Utilities Engineering Bureau with assistance from the City Planning Department, Municipal Railway, Department of Public Works and Parking Authority, and with general policy guidance provided by the Mayor's Transportation Council. Conducted in coordination with the survey by the SF Bay Area Rapid Transit District, the study included a cordon count of all vehicles and pedestrians entering and leaving the Metropolitan Traffic District during a typical weekday's 12-hour period, 7 a.m. to 7 p.m. The last such cordon count was made in 1947.

This Annual Report designed by the studio of Donald G. Clever • Edited by Bureau of Public Service, PUC • Photography by Marshall Moxom, PUC Photo Lab. • Lithography by Modern Lithographers, Inc.

Additional copies of this Annual Report of the Public Utilities Commission covering fiscal year 1959-60 may be obtained from the Bureau of Public Service, Room 287, City Hall, San Francisco 2, California



**ROBERT J. MACDONALD**, Secretary to the Public Utilities Commission since 1941, kept track of actions involving the multi-million dollar utilities business by writing more than 19,000 Commission resolutions over the years. But he didn't write No. 20,300 in which the PUC, reflecting on his objective, intelligent and cooperative assistance, expressed gratitude for a job superbly well done. Mayor Christopher presented the resolution on the occasion of his retirement June 30, 1960. In all, "Mac", now 65, had served San Francisco 34 years.

## SPECIAL BUREAU FUNCTIONS

### BUREAU OF ACCOUNTS

The Bureau of Accounts supervises and coordinates the financial affairs of all utilities. Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. In addition, it assists with negotiation of all leases of Public Utilities Commission property.

Figures prepared by the Bureau of Accounts reveal that properties under the jurisdiction of the PUC have a book value before depreciation, as of June 30, 1960, of \$340,145,250.

**GEORGE P. NEGRI**, Director  
Bureau of Accounts



### PERSONNEL & SAFETY BUREAU

This Bureau processes employments, terminations, transfers and leaves of absence of all employees and maintains complete personnel records for the 3,722 employed in the various utilities as of June 30, 1960.

Important safety functions include training Municipal Railway platform workers, processing data for safety awards, compiling accident and injury reports, setting up and administering transit and industrial safety programs, taking part in city traffic surveys with respect to public safety.

**PAUL J. FANNING**, Director  
Bureau of Personnel and Safety



### BUREAU OF PUBLIC SERVICE

Public information, employee and public relations are the responsibility of this Bureau, which has its main office at City Hall with branches at the Municipal Railway and the SF International Airport.

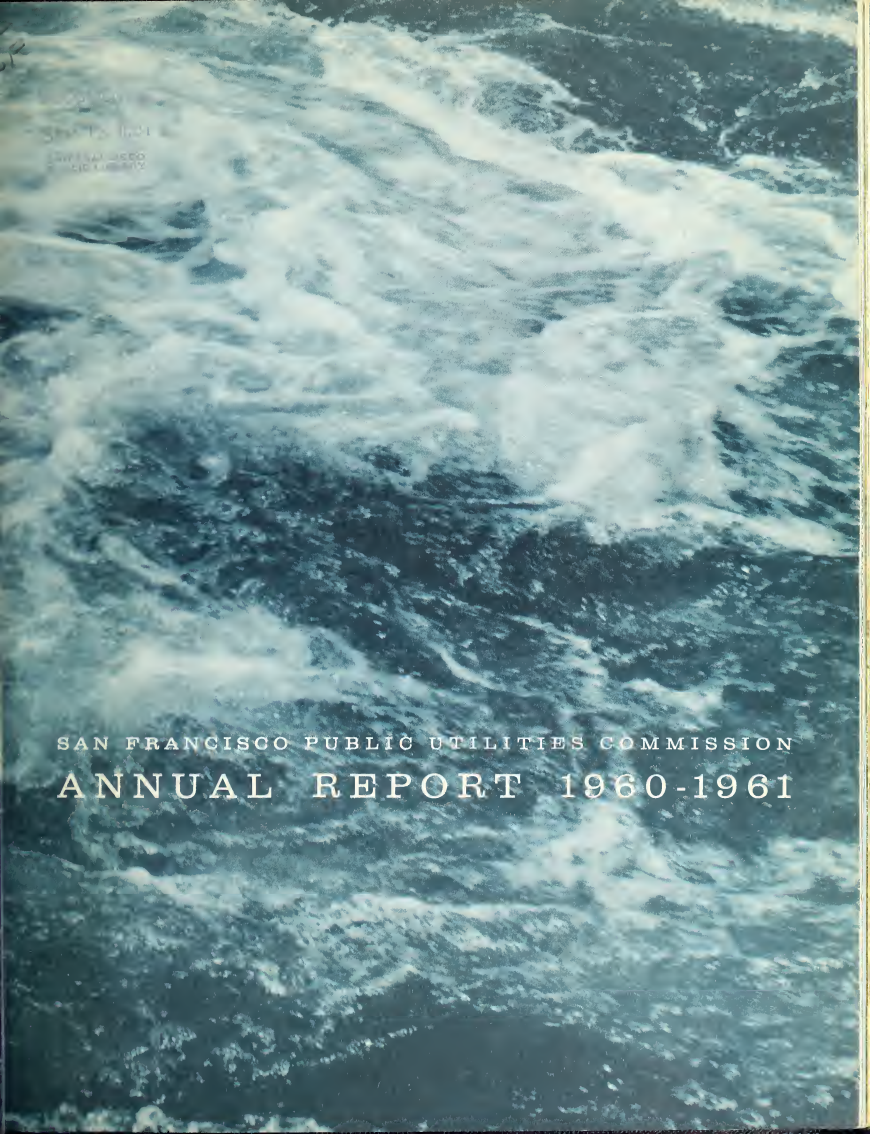
Working with press, television and radio, through publications such as this Annual Report and educational programs with schools, clubs and civic groups, information regarding the utilities is widely disseminated to its citizen-owner-customers.

**WILLIAM SIMONS**, Director  
Bureau of Public Service



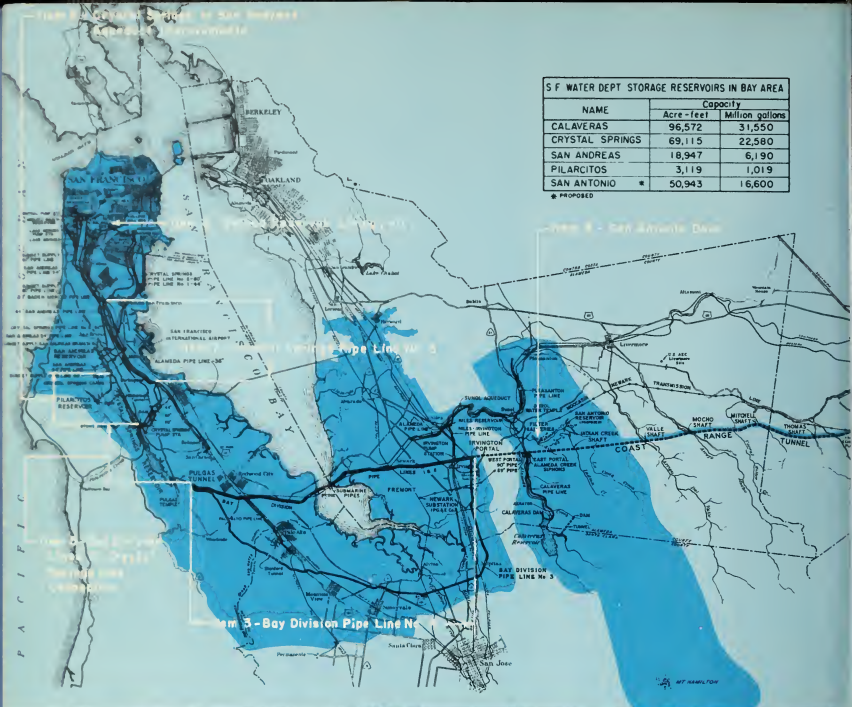






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SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
ANNUAL REPORT 1960-1961

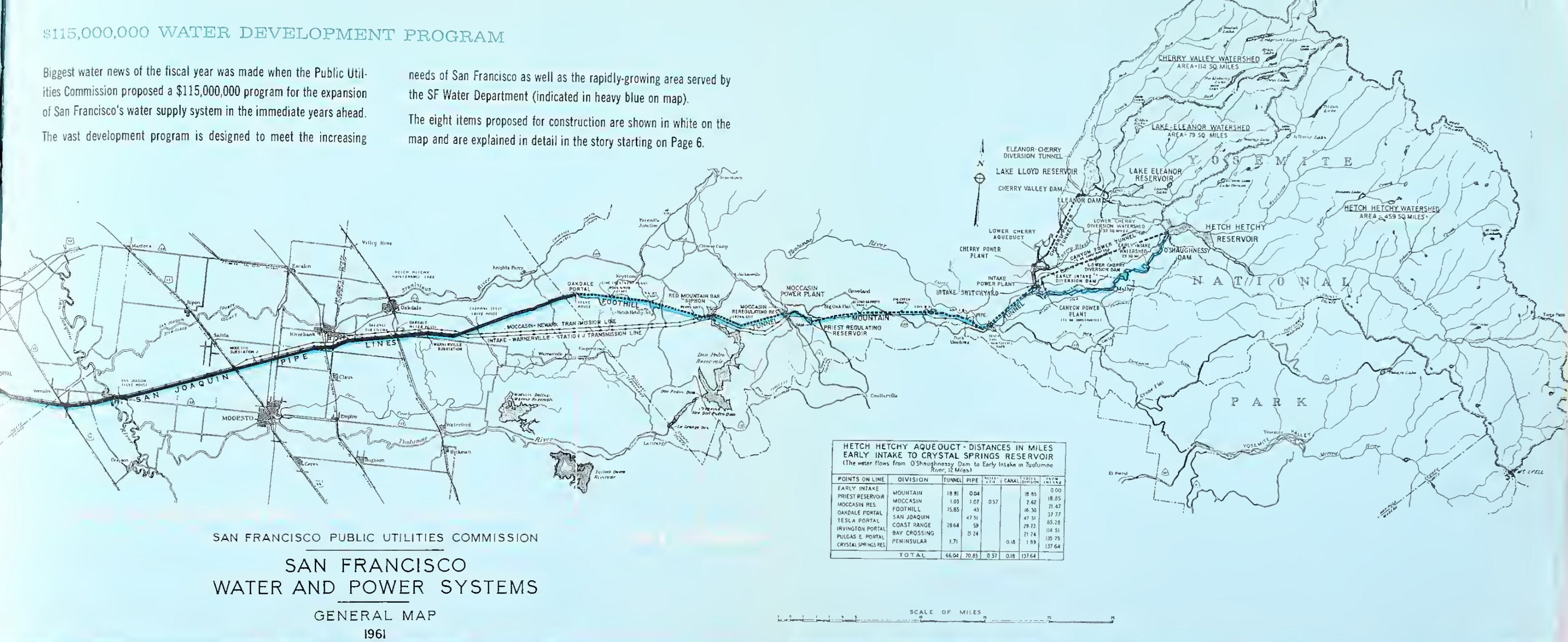




\$115,000,000 WATER DEVELOPMENT PROGRAM

Biggest water news of the fiscal year was made when the Public Utilities Commission proposed a \$115,000,000 program for the expansion of San Francisco's water supply system in the immediate years ahead. The vast development program is designed to meet the increasing

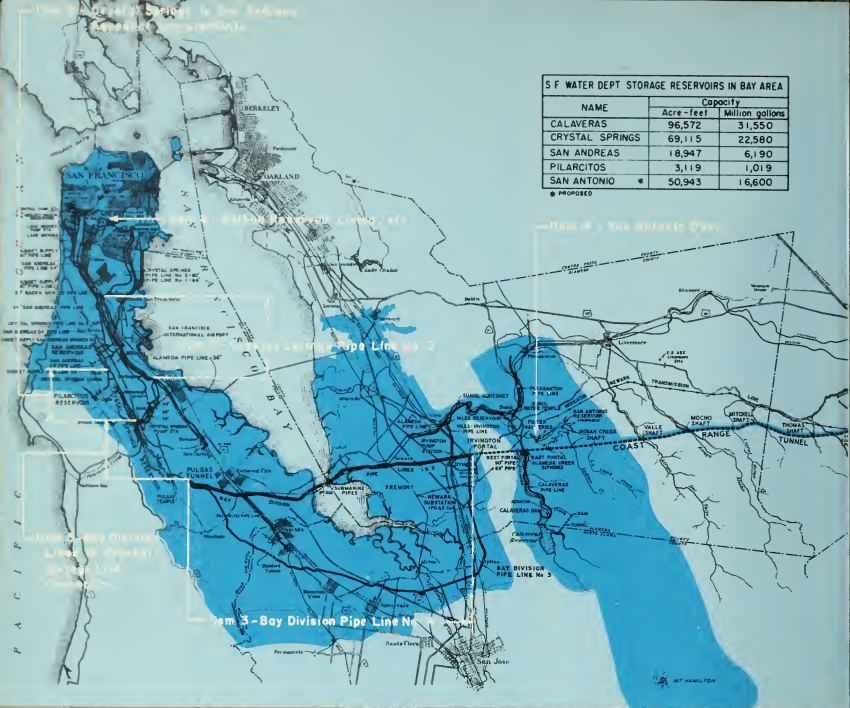
needs of San Francisco as well as the rapidly-growing area served by the SF Water Department (indicated in heavy blue on map). The eight items proposed for construction are shown in white on the map and are explained in detail in the story starting on Page 6.



SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
**SAN FRANCISCO**  
**WATER AND POWER SYSTEMS**  
GENERAL MAP  
1961







## HIGHLIGHTS OF THE YEAR

Both Commission and staff were affected by a number of important personnel changes during the fiscal year. Joseph Martin Jr., PUC President on two separate occasions since his appointment in 1956, resigned due to the press of his private law practice and new duties as a Republican National Committeeman; he was replaced by Henry W. Roden, business consultant. Edward B. Baron, retired theater owner, concluded a record 16 years of service to San Francisco (he had been appointed to the Board of Permit Appeals in 1944, to the PUC in 1949) and was succeeded by George F. Hansen, vice-president of Matson Navigation Company . . . Oral L. Moore, 39-year-old engineer, became the youngest department head in the PUC family when he was appointed General Manager of the Hetch Hetchy Project and Utilities Engineering Bureau. He replaced Harry E. Lloyd, who retired after 30 years devoted to Hetch Hetchy; it was in his honor that the Board of Supervisors had named the Cherry reservoir "Lake Lloyd." . . . It was the first full fiscal year of new responsibilities for Vernon W. Anderson as General Manager of the Municipal Railway and for James J. Finn as Secretary to the Commission.

**A \$115,000,000 construction program to expand San Francisco's famed Hetch Hetchy water system was approved by the PUC during the year; subsequently, a bond issue in that amount—largest in the City's history—was ordered placed on the November, 1961, ballot by the Board of Supervisors. (For a detailed description of the proposed program, see map, "San Francisco Water and Power Systems," starting inside front cover directly opposite this page, and story, starting on Page 6.)**

The economic impact of the vast Utilities operations was reflected in \$1,376,463 taxes paid neighboring jurisdictions (San Mateo, Santa Clara, Alameda, San Joaquin, Stanislaus, Mariposa and Tuolumne Counties) by the SF Water Department (\$937,603), Hetch Hetchy Project (\$349,381), and SF International Airport (\$89,479). San Mateo County's actual tax revenue derived from the Airport—its largest industry and greatest concentration of taxable wealth—totaled nearly \$1,200,000.

The Cherry-Canyon power development in the High Sierra, authorized in 1955 by a \$54,000,000 bond issue, reached the half-way mark during the year with the big Cherry powerhouse (rated generating capacity: 135,000 kilowatts) going "on the line" in September, 1960. In May, 1961, Secretary of the Interior Stewart L. Udall gave the Federal "go ahead" to the long-delayed second unit, the 67,500-kilowatt Canyon, major construction on which is scheduled to start during fiscal year 1961-62.

For the second consecutive year, more than five million passengers were recorded at SF International Airport; although the gain over the previous year was small—.7 per cent—it was made during a year which saw a seven-month slump in air travel both nationally and internationally . . . And the Municipal Railway continued its stand-out performance in the face of national transit decline trends by transporting 141,292,294 revenue passengers. The fare continued unchanged—15 cents with free transfer privileges.

## ORGANIZATION OF THE UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco.

These utilities are the SF International Airport, the SF Municipal Railway, the SF Water Department, the Hetch Hetchy Project, Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Service.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the utilities. Department and bureau heads are responsible to the Manager of Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the 12-month period beginning July 1, 1959 and ending June 30, 1960.





GEORGE CHRISTOPHER, Mayor of San Francisco

## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



DON FAZACKERLEY  
President



HENRY W. RODEN  
Vice President



STUART N. GREENBERG  
Commissioner



GEORGE F. HANSEN  
Commissioner



THOMAS P. WHITE  
Commissioner



ROBERT C. KIRKWOOD  
Manager of Utilities



THOMAS M. O'CONNOR  
Public Utilities Counsel



JAMES J. FINN  
Secretary to Commission

## PUBLIC UTILITIES FACT SHEET

CUSTOMER SERVICES			
Airport Passengers	1958-59	1959-60	1960-61*
Air Shipments (pounds)	4,275,675	5,017,479	5,051,650
Transit Passengers (revenue)	146,362,220	158,503,602	178,296,268
Kilowatt Hours Sold	141,054,108	142,094,969	141,293,284
Water Consumption (gallons daily)	678,900,000	853,300,000	930,824,000
Street Lights	157,621,132	167,835,295	167,589,019
	28,592	28,830	28,915
BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION			
Hetch Hetchy	\$134,655,162	\$134,149,330	\$160,138,795
Water Department	107,069,949	111,195,622	115,220,565
Municipal Railway	35,705,737	32,800,607	31,830,697
International Airport	54,059,140	58,110,004	60,261,638
Light, Heat and Power	3,888,973	3,889,687	**
TOTAL	\$335,378,961	\$340,145,250	\$367,451,695
TAX SUBSIDY			
Municipal Railway	\$ 5,890,411	\$ 5,351,506	\$ 5,462,507
Light, Heat and Power	1,157,567	1,178,403	1,203,740
TAXES PAID TO OUTSIDE JURISDICTIONS			
Water Department	\$ 911,098	\$ 962,425	\$ 937,603
International Airport	81,629	88,354	89,479
Hetch Hetchy	26,778	45,406	349,380
SALARIES AND RELATED WAGE BENEFITS			
Municipal Railway	\$ 16,655,831	\$ 17,219,201	\$ 18,070,233
Water Department	3,723,160	3,976,955	4,146,208
Hetch Hetchy	1,221,642	1,340,974	1,381,946
International Airport	1,336,135	1,409,876	1,657,513
Light, Heat and Power	95,641	85,939	94,282
NUMBER OF EMPLOYEES			
Municipal Railway	2,831	2,715	2,724
Water Department	522	520	527
Hetch Hetchy	263	280	275
International Airport	168	171	178
Light, Heat and Power	14	12	12
PUC General Office	23	24	24
TOTAL EMPLOYEES	3,821	3,722	3,740

\*All figures subject to final audit.

\*\*Books are now kept in Controller's Office as a General City Account.

## HEADS OF THE UTILITY DEPARTMENTS



JAMES H. TURNER  
General Manager  
and Chief Engineer,  
S. F. Water Department



BELFORD BROWN  
General Manager,  
San Francisco  
International Airport



VERNON W. ANDERSON  
General Manager,  
Municipal Railway  
of San Francisco



ORAL L. MOORE  
General Manager,  
Hetch Hetchy Project and  
Utilities Engineering Bureau

## \$115,000,000 WATER SYSTEM DEVELOPMENT IS SF ANSWER TO AREA'S GROWING NEEDS

Responding to the fast-approaching requirements of the future, the Public Utilities Commission during the fiscal year—the third consecutive year of severe drought—announced plans for a \$115,000,000 bond issue to expand the City's water supply system.

Biggest in San Francisco's history, the bond issue (unanimously approved by the Board of Supervisors for submission on the November, 1961, ballot as Proposition "A") is designed to nearly double the capacity of the famed water supply system that starts in the High Sierra, 167 miles from the City.

This capacity increase will guarantee the future needs of San Francisco and will continue to meet the ever-increasing needs of the booming population in the suburban area down the Peninsula and around the South Bay.

In making the presentation to the PUC, Utilities Manager Robert C. Kirkwood pointed out that the mammoth construction program of dams, tunnels and pipelines could be accomplished without affecting the City's tax rate; the bonds would be repaid over a 20-year period by the sale of water and Hetch Hetchy power. In addition, he noted, it would be entirely possible to grant a series of rate reductions for both retail and wholesale customers during the bond-repayment period.

The \$115,000,000 program was the result of years of planning by James H. Turner and Harry E. Lloyd, heads, respectively, of the San Francisco Water Department and the Hetch Hetchy Project and their staffs. (Lloyd retired in March, 1960, and was succeeded by Oral L. Moore.) Broadly, the program involves two major areas:

- 1) Construction of additional aqueduct and local storage to guarantee the City's ability to increase its delivery capacity to the Bay Area to approximately 300,000,000 gallons daily. It was estimated that this capacity—which would nearly double the system's present daily delivery capacity of 180,000,000—would be sufficient to take care of the service area's constantly expanding water needs at least to the year 1985.
- 2) Construction of additional water storage in the mountains to guarantee San Francisco's ability to serve a dependable water supply of 400,000,000 gallons daily to its Bay Area customers at least to the year 2015.

Statistics underline the urgent need for expansion of the system—and they tell a dramatic story of Bay Area growth. The system's average consumption 31 years ago—when the City purchased the Spring Valley Water Company and went into the water business—was 52,000,000 gallons per day; it was more than 167,000,000 for fiscal 1960-61. This was close to the 180,000,000 gallons per day considered to be the safe sustained delivery capacity—the "ability to serve" capacity—of

the present system. (See Graph, Pages 8 and 9, showing predicted needs for 180,000,000 gallons per day within next two fiscal years.)

The City's water system that was being girded to meet the challenge of growth is actually composed of two sister utilities: 1) The Hetch Hetchy Water and Power Supply Project which catches the runoff from the melting snow in the Tuolumne River watershed and regulates its flow via gravity through aqueducts to the Bay Area; and 2) The San Francisco Water Department which takes the high mountain water and, together with additional water produced in Bay Area reservoirs, serves it to San Francisco as well as to neighboring communities in most of San Mateo County, parts of Santa Clara and Alameda Counties. Hetch Hetchy provides approximately two-thirds of the water supplied to customers, on an average, with the rest coming from such local sources as Calaveras Dam in Alameda County and the chain of reservoirs in San Mateo County.

San Francisco's first planning for the great system of today goes back to the turn of the century. The City's State water rights go back as far as 1901, well before the Raker Act of 1913 which granted rights to construct facilities on National Park and Forest land in the Sierra, thus permitting San Francisco to take advantage of its water rights at least to the extent of 400,000,000 gallons daily.

The development was to be gradual, as the water needs of San Francisco, the Peninsula and the Bay Area increased. Yet in line with the vision of the early planners and engineers, the aqueduct that channels water from the Tuolumne River at Early Intake to the Moccasin power plant and on to the Oakdale Portal—western terminal of the Foothill Tunnel—was constructed to the 400,000,000 gallon-per-day capacity. Stage construction to the same capacity was contemplated for the rest of the entire system—as the needs of the water users justified the development.

Water was first brought into the Bay Area from Hetch Hetchy in 1934 and was distributed through the facilities purchased in 1930 from the Spring Valley Water Company. But before San Francisco actually received one drop of water from Hetch Hetchy, it had authorized bonds totalling \$89,600,000 for the project's construction—and its taxpayers had been billed for more than \$21,500,000 to cover bond interest and redemption and incidental costs.

Since 1934, substantial additions have been made to the system both inside and outside of San Francisco—always in stages, to meet increasing needs. Major items include the raising of O'Shaughnessy Dam, the Cherry Valley Dam, a second San Joaquin pipeline, a second and third Bay Crossing pipeline, Crystal Spring Pipeline No. 2, three large concrete reservoirs in San Francisco as well as many miles of distribution mains in the City, and numerous projects to protect the

As enthusiastically demonstrated by this group of children, water is fun—good—and necessary! Development of the Hetch Hetchy water system is planned to meet the increasing needs of the vast area served by the SF Water Dept.



quality of the water. (An example of one facet of the system's never-ending water quality program: During the fiscal year, 44,236 laboratory and field tests were made.)

Giant power projects were developed—Moccasin in 1925, Cherry just last fall (with Canyon scheduled for major construction in 1961-62)—to generate hydroelectric energy as a by-product of the water system and as an aid in keeping down the cost of water. (Customers pay 10 per cent less for their water today than in 1930.) In all, the cost to San Francisco for its water supply plant has been more than \$400,000,000.

In the light of such a history, the following items (see system map, inside front cover) of the \$115,000,000 program constitute another planned stage in the progressive development of a great water system:

**ITEM 1—SAN JOAQUIN PIPELINE NO. 3 (\$22,000,000):** Hetch Hetchy water is brought across the San Joaquin Valley in two pipelines, each 47.47 miles long, from Oakdale Portal of the Foothill Tunnel in Stanislaus County to Tesla Portal of the Coast Range Tunnel in San Joaquin County. Each has been operating at full capacity for the past two years. The proposed new pipeline, to be built on the existing right of way, will increase the aqueduct's capacity to about 295,000,000 gallons per day.

**ITEM 2—NEW DON PEDRO DAM (\$45,000,000):** Under this project San Francisco proposes to participate in the construction of the new Don Pedro Dam under a long-established policy of cooperative development of the Tuolumne River watershed by the City, the Modesto and Turlock Irrigation Districts (which possess prior water rights on the watershed), and the U. S. Army Corps of Engineers. New Don Pedro Dam is to be constructed on the Tuolumne River about 1.5 miles downstream from the existing Don Pedro Dam—owned and operated by the Irrigation Districts—to a size and elevation sufficient to impound 2,030,000 acre-feet of water. Of this total, 570,000 acre-feet is to be City "exchange" storage which will increase to 740,000 acre-feet when flood control space is not required. (In view of the Irrigation Districts' prior rights, the City, over the years, has been required to make releases to the Districts of water stored in its own reservoirs; under the exchange storage plan at New Don Pedro, San Francisco could retain the water in its upstream reservoirs for its own uses.) The exchange storage space—together with the 655,000 acre-feet in the City's existing Sierra reservoirs (360,000 in Hetch Hetchy; 268,000 in Lake Lloyd; 27,000 in Lake Eleanor)—will give San Francisco a maximum storage of 1,395,000 acre-feet. This will provide an ultimate delivery capacity from the Hetch Hetchy Project of 400,000,000 gallons per day, and will safeguard the City's power revenues by assuring full capacity operation of its power plants as diversions of water to San Francisco increase.

**ITEM 3—BAY DIVISION PIPELINE NO. 4 (\$22,500,000):** Water from Hetch Hetchy and East Bay sources is now brought across the lower San Francisco Bay in three pipelines from the Irvington Portal of the Coast Range Tunnel to the east portal of Pulgas Tunnel; they are regularly used to their maximum carrying capacity. Construction of a fourth pipeline, 33.94 miles long, is proposed in the existing right of way paralleling Bay Division Pipeline No. 3 around the southerly end of the Bay.

**ITEM 4—SAN ANTONIO DAM (\$6,500,000):** This proposal is for a dam (on San Antonio Creek, about three miles east of Sunol in Alameda

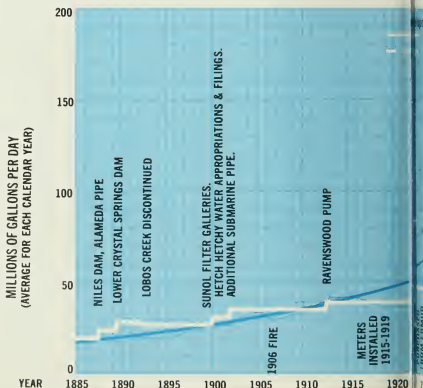
County) to catch and store San Antonio Creek water, as well as to provide additional local storage for water from Hetch Hetchy and other sources, and to provide a pipeline from this reservoir to the main aqueduct transmission line. The additional local storage is necessary to insure continued water service to customers in case of interruption of the Hetch Hetchy water service, and to meet high periodic demands along the Bay Division Pipelines.

**ITEM 5—CONNECTION, BAY DIVISION LINES TO CRYSTAL SPRINGS LINE (\$10,000,000):** This proposal is for construction of an aqueduct connecting the Bay Crossing pipelines to the Crystal Springs pipelines in a manner which would by-pass Crystal Springs Reservoir and would permit the delivery of Hetch Hetchy water directly to customers.

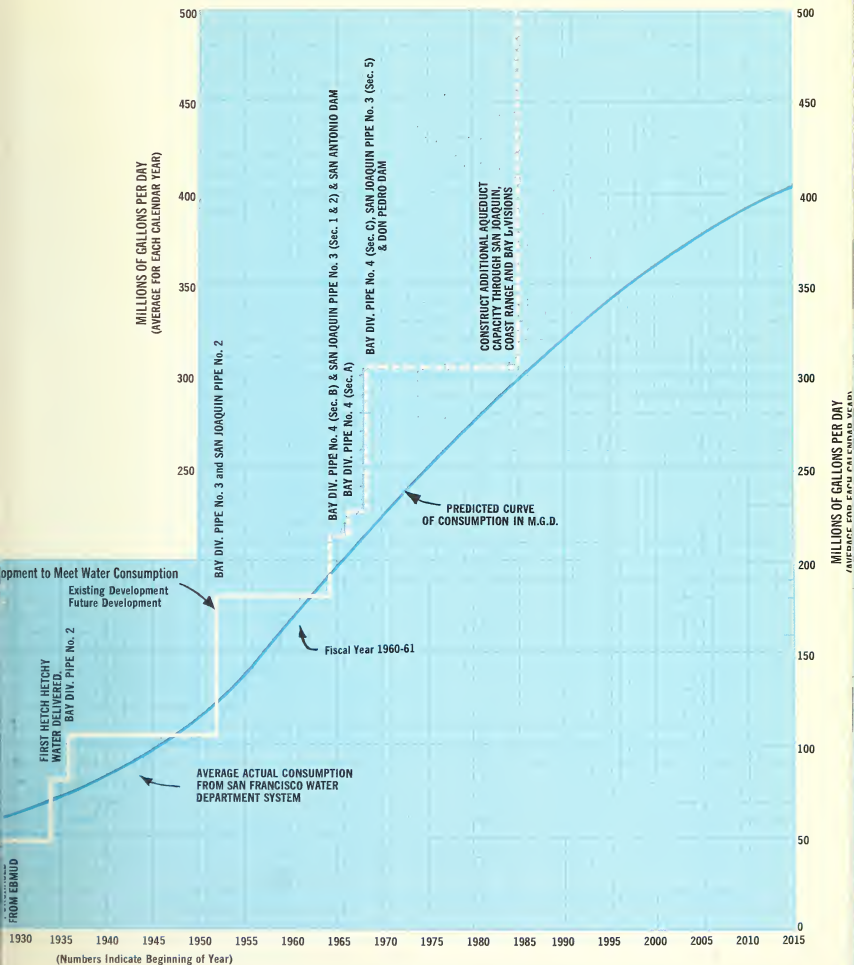
**ITEM 6—PIPE LINE, CRYSTAL SPRINGS TO SAN ANDREAS RESERVOIR, AND PUMP STATION (\$2,700,000):** Construction of a steel pipeline, about 30,000 feet long, and pump station additions is proposed for moving greater capacity water from Crystal Springs into the higher San Andreas Reservoir.

**ITEM 7—CRYSTAL SPRINGS PIPELINE NO. 3 (\$3,300,000):** Construction of a 38,000-foot-long pipeline from Crystal Springs north towards San Francisco is proposed to increase delivery of water to northern San Mateo County and to San Francisco.

**ITEM 8—BALBOA RESERVOIR (\$3,000,000):** Construction of one basin of Balboa Reservoir in San Francisco with a capacity of 75,000,000 gallons of water is proposed which will increase the water storage capacity within the City and will provide a new pressure district for improved service.







SYSTEM CONSTRUCTION IS BASED ON HISTORICAL DEVELOPMENT



## PASSENGER TRAFFIC

1960-61	5,051,650
1959-60	5,017,479
1958-59	4,275,675
1957-58	4,046,524
1956-57	3,684,830
1955-56	3,282,444
1954-55	2,879,366
1953-54	2,478,366

## AIR EXPRESS AND FREIGHT

	(pounds)
1960-61	119,585,659
1959-60	111,986,915
1958-59	103,177,998
1957-58	88,273,800
1956-57	89,486,910
1955-56	75,366,072
1954-55	57,184,920
1953-54	46,694,469

## SAN FRANCISCO INTERNATIONAL AIRPORT

Impressive new gains in passenger, mail and cargo volumes were registered at San Francisco International Airport during fiscal year 1960-61. This was the first 12-month period that the full effect of the new, globe-shrinking "jet age" was felt at the Airport, with jet operations during May and June accounting for more than 50 per cent of total carrier aircraft landings and takeoffs for the first time.

Aircraft movements of all types totaled 216,436—an average of approximately 25 each hour throughout the year. Carrier movements numbered 140,425—one about every four minutes—and were down 4 per cent from the record total of the previous year. This was attributable to the marked increase in use of jet aircraft with larger passenger and cargo capacity.

The Airport maintained its position as the nation's fifth major hub of air traffic, generating 3.8 per cent of all passengers scheduled on domestic air carriers.

Two new carriers—National Air Lines and San Francisco-Oakland Helicopter Airlines—inaugurated operations from the Airport in the latter part of the fiscal year, bringing to 15 the total number of airlines utilizing SFIA's facilities. The others are: American Airlines, British Overseas Airways, Flying Tiger Line, Japan Air Line, Lufthansa German Airlines, Pacific Air Lines, Pacific Southwest Airlines, Pan American World Airways, Qantas Empire Airways, Trans World Airlines, United Air Lines, West Coast Airlines and Western Airlines. (Contracts were signed with Delta Air Lines which is expected to inaugurate a new service to the Southwestern States in October, 1961.)

Constructed on 2,060 acres of reclaimed mudflats in northern San Mateo County—and owning approximately 3,100 acres of tidelands for future expansion—, SFIA is a self-sufficient Air City uniquely equipped to serve the needs of the ever-increasing volume of Bay Area air travelers.

Airport services include an inviting medley of restaurants and bars, shops, banking, insurance, parking and auto rental facilities, a branch

post office and even special nursery accommodations for mothers with small children. The \$2,500,000 Hilton Inn caters to the air traveler, offering 300 luxury rooms, a swimming pool, bars and restaurants and other facilities in a resort atmosphere. So great has been public response that an expansion of the Inn is programmed for the near future.

Expansion programs by other Airport tenants either are in progress or in the planning stages. Included is an increase in the fuel storage capacity from 5,200,000 gallons to 7,415,520 gallons to expedite delivery of approximately 170,000,000 gallons of fuel annually to aircraft.

And the Airport itself continued to cope with the explosive growth which has marked each of its recent years. (See Graph, Passenger and Freight Traffic, facing page; and Airport Operating Revenues, below.) Under a master plan drawn to meet the "jet age" challenge, a \$500,000 contract was awarded for driving pilings at the site of the new South Terminal building which, when constructed, will add more than \$8,500,000 to San Francisco's capital investment (\$60,261,638 as of June 30, 1961). Completion of the South Terminal construction was scheduled to start in September, 1961) in early 1963 will increase the Airport's capacity for serving air travelers by an estimated 50 per cent. Such marked increases were registered for the year in the volumes of mail (up 26.2 per cent), air express (up 6.8 per cent) and air freight (up 6.8 per cent) handled that the new mail and cargo buildings completed in fiscal 1959-60 were utilized to capacity and studies were started for the expansion of the cargo-handling area by approximately 35 per cent.

SFIA's continued spectacular growth has had an impressive economic impact on the entire Bay Area, particularly the Peninsula. Airport employment now exceeds 14,500 persons with an annual payroll of more than \$100,000,000. Approximately 75 per cent of the employees—with a payroll of about \$75,000,000—reside in the Peninsula's San Mateo and Santa Clara Counties. Tax revenue derived from the Airport by San Mateo County totaled nearly \$1,200,000 during 1960.

### AIRPORT OPERATING REVENUES

	1957-58	1958-59	1959-60	1960-61
Air Carrier Flight Operations . . . . .	\$ 750,666	\$ 938,170	\$1,148,275	\$1,208,272
Public Address System . . . . .	19,215	15,333	13,655	16,066
Rentals, Terminal Building . . . . .	639,787	605,169	749,016	825,351
Rentals, Other . . . . .	334,638	420,541	516,841	742,165
Concessions, Terminal Building . . . . .	531,124	604,646	723,228	713,994
U-Drive Autos . . . . .	300,828	401,854	518,754	570,856
Taxicabs and Limousines . . . . .	159,840	176,674	213,378	210,059
Parking Lots, Meters . . . . .	589,782	646,541	749,851	797,519
Auto Service Stations . . . . .	18,603	20,913	26,517	32,597
Hilton Inn . . . . .	—	666	94,046	109,535
Agency Commissions . . . . .	73,720	66,537	62,423	89,723
Other Income . . . . .	498,464	429,995	738,917	806,941
<b>TOTAL . . . . .</b>	<b>\$3,916,667</b>	<b>\$4,336,039</b>	<b>\$5,554,901</b>	<b>\$6,123,078</b>

## THE SAN FRANCISCO MUNICIPAL RAILWAY

Statistically, during fiscal year 1960-61 the Municipal Railway transported more than 200,000,000 passengers over some 26,500,000 miles in nearly 2,850,000 hours of operation. To accomplish this required precision teamwork on the part of 2,724 employees—two-thirds of whom operated the system's 840 scheduled streetcars, trolley coaches, motor buses and cable cars, with the rest backstopping the operating personnel by performing office, supervisory and maintenance support roles.

Behind the bare statistics is another drama-packed fiscal year chapter in the history of one of the most challenging transit operations in the entire country.

For although San Francisco occupies 45 hilly square miles bordered on three sides by water, its vital role as the financial and business capital of the West is conducted from a comparatively small downtown district. It is to this diminutive area—the City's economic heart, comprising 70 per cent-plus of its total tax base—that the bulk of the Municipal Railway's transit arteries flow. And it is in the performance of this service that the continuing battle against congestion—against the growing specter of automobiles—is being waged.

Recognition of the "Muni"—as it is familiarly known—as a virtual lifeline between the various districts and downtown is the basis for San Francisco's official policy to subsidize the system as a necessary and essential public service. Thus, its riders are transported for a fare that is one of the country's biggest transit bargains—15-cents a ride with full transfer privileges. Only two other major cities—New York and New Orleans—can match this.

During the year the tax support policy was carefully reviewed in public hearings conducted by the Public Utilities Commission which decided that retention of the low fare rates was still the least cost solution to the City's overall traffic problem. When the Bay Area Rapid Transit District commences operation in San Francisco, the Commission reasoned, it would be an appropriate time for another review. It was a decision that met with immediate favorable response from both the general public and the major taxpaying organizations.

Revenue passengers carried during the year totaled 141,292,294, comparing with 142,094,969 for the previous year. (The difference between revenue passengers and the more than 200,000,000 passengers carried is accounted for by the users of the free transfer privilege.) With respect to revenue passengers, the Muni's record has been consistently more favorable than the average for other comparable cities, most of which show marked decreases in patronage. This was impressively underlined by a State Public Utilities Commission report showing the Muni in 1960 had a lesser decline in revenue passengers than any other transit system in California. Statewide, the average decline from the preceding year was 4 per cent with a maximum of 14 per cent.

The Muni's record of public acceptance—shown by its continued high rate of patronage—is based partly on the system's constant alertness to the little as well as the major improvements in its service. An example: During the year the Muni installed roller-type route numbers

on the backs of 800 trolley coaches and Mack motor coaches. Produced in the railway's own shops, the new signs have provided many an antidote to frustration by making it easier for the patron approaching a vehicle from the rear to determine if it is the one he wants.

A number of route changes were effected during the year with subsequent service benefits to residents of the area served by the Park Merced and Southern Heights lines as well as to Fort Miley Veterans Hospital.

But undoubtedly the major accomplishment from the public's point of view was the Muni's highly successful repeat performance of special service to Candlestick Park, home of the San Francisco Giants. Even though a 30-cent fare, with free transfer privileges, was adopted in time for the opening of the 1961 season—in place of the previous season's 15-cent fare—enthusiastic plaudits continued to be received from the thousands of fans who rode the three express, three local and one shuttle lines to the ball park. This enthusiasm was emphasized by the fact that at the mid-season point 16 per cent of Candlestick's total attendance rode the Muni. On weekday afternoons when capacity crowds of over 44,000 have jammed the stadium the Muni has furnished up to 120 extra coaches to handle the returning fans.

One of the unique features of the traffic pattern to the ball park is an exclusive transit street, three-quarters of a mile long, for buses and taxicabs. Exclusive of rapid transit routes, this is perhaps the first of its kind in the country.

Efforts are constantly exerted in a continuing program looking toward the solution of the City's seemingly omnipresent traffic problems. As part of this effort an Interdepartmental Committee, including staff representatives of Police, Public Works and City Planning Departments as well as the Muni, meets twice a month. Occasionally the group is augmented by representatives of downtown groups and trucking and teamster unions. These modern "transit vigilantes" wage unremitting warfare on the evils of congestion.

A significant date was recorded during the Muni's fiscal year when, on Sunday, June 26, not a single accident occurred in the entire system. Never before in the system's history had there been such a "no accident" day.

The Muni's Equipment Department produced a very practical device known as a "hose bridge" during the year. This bridge allows streetcars to pass over fire hoses on the track and is similar in principle to bus hose bridges previously used. They are designed to expedite traffic and reduce the possibility of excessive delays to the streetcars in the event of fire.

Among the Muni's major projects in the fiscal year was a \$64,000 job accomplished on the "home" of San Francisco's beloved cable cars—the Washington-Mason carhouse. In addition to a new paint job inside and out, the hallowed old structure was given new flooring, additional structural reinforcements and a repair pit, and an obsolete steam-driven retriever was replaced with an electric winder in the interest of efficiency. Cable car buffs were delighted.

More than 200,000,000 passengers—including 141,292,294 revenue passengers—were transported by the Muni during 1960-61 over some 26,500,000 miles in nearly 2,850,000 hours of operation.





← Civic Center  
U.S. 101

Downtown  
Bay Bridge

DUNHAM CARRIAGE & TAXI



## ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission. (An exception is the SF Water Department, which has its own engineering division.)

The Bureau has full charge of the Hetch Hetchy water supply and electric power system, also performs engineering work for the SF International Airport and the SF Municipal Railway. This latter function includes planning and supervising all new construction for these three utilities and the provision of engineering services in connection with maintenance and reconstruction of existing facilities.

Total value of construction work performed under the Bureau's direction during the year on the Hetch Hetchy Project, Airport and Municipal Railway was approximately \$5,900,000; at fiscal year's end an additional \$2,600,000 of work was under construction.

The Bureau coordinated preparation of plans for the new southern terminal at the Airport during the year (start of construction was scheduled for September, 1961), and continued studies which will lead to a revised master plan for the entire Airport area. It also coord-

inated the preparation of plans for the Canyon Power Project in the High Sierra (with the start of major construction scheduled during fiscal year 1961-62). Canyon is one of two power projects authorized by a 1955 bond issue of \$54,000,000. The first of these was completed in September when the big Cherry Powerhouse (with a rated generating capacity of 135,000 kilowatts) went "on the line."

## LIGHT, HEAT AND POWER

The Bureau of Light, Heat and Power is another dual-role member of the utilities family, combining the functions of a service bureau—to provide for furnishing utility services for municipal purposes—with those of an operating bureau which provides for the lighting of public streets in San Francisco.

A total of 257,641,932 kilowatt-hours of electric energy generated by the Hetch Hetchy System was supplied municipal accounts (including street lighting and traffic devices, the Municipal Railway, SF International Airport, and the lighting of municipal buildings) during the year, while the Pacific Gas and Electric Company furnished under contract 13,180,984 hundred-cubic-feet of natural gas and 1,921,200 pounds of steam. The total number of City-owned, PG&E-owned and jointly-owned street lights at fiscal year's end was 28,830.

## SPECIAL BUREAU FUNCTIONS

### BUREAU OF ACCOUNTS

The Bureau of Accounts supervises and coordinates the financial affairs of all utilities. Departmental budgets are prepared under the direction of this Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. In addition, it assists with negotiation of all leases of Public Utilities Commission property. Figures prepared by the Bureau of Accounts reveal that properties under the jurisdiction of the PUC have a book value before depreciation, as of June 30, 1961, of \$367,451,695.

GEORGE P. NEGRI, Director, Bureau of Accounts



### PERSONNEL & SAFETY BUREAU

This Bureau processes employments, terminations, transfers and leaves of absence of all employees and maintains complete personnel records for the 3,740 employed in the various utilities as of June 30, 1961. Important safety functions include training Municipal Railway platform workers, processing data for safety awards, compiling accident and injury reports, setting up and administering transit and industrial safety programs for the various utilities departments, taking part in San Francisco traffic surveys with respect to general and public traffic safety.

PAUL J. FANNING, Director, Bureau of Personnel and Safety



### BUREAU OF PUBLIC SERVICE

Public information, employee and public relations are the responsibility of this Bureau, which has its main office at City Hall with branches at the Municipal Railway and the SF International Airport. Working with press, television and radio, through publications such as this Annual Report and educational programs with schools, clubs and civic groups, information regarding the vast operation of San Francisco's public utilities is widely disseminated to its citizen-owner customers.

WILLIAM SIMONS, Director, Bureau of Public Service



# BUDGET BRIEFS OF THE UTILITIES

## SAN FRANCISCO INTERNATIONAL AIRPORT

RECEIPTS	1960-61
Revenues . . . . .	\$ 6,123,078
Prior Year's Surplus . . . . .	2,125,144
	<u>\$ 8,248,222</u>
EXPENDITURES	
Operations . . . . .	\$ 2,745,303
Bond Interest and Redemption . . . . .	1,713,296
Betterments . . . . .	1,855,181
	<u>\$ 6,313,780</u>
UNAPPROPRIATED REVENUES . . . . .	<u>\$ 1,934,442</u>

## MUNICIPAL RAILWAY OF SAN FRANCISCO

RECEIPTS	
Revenues . . . . .	\$19,855,940
Other Income . . . . .	293,779
Prior Year's Surplus . . . . .	1,185,500
Taxes . . . . .	5,462,507
	<u>\$26,797,726</u>
EXPENDITURES	
Platform Wages . . . . .	\$ 9,751,697
Bond Interest, Redemption . . . . .	1,638,978
Other Expenses . . . . .	14,397,722
Betterments . . . . .	152,995
	<u>\$25,941,392</u>
UNAPPROPRIATED REVENUES . . . . .	<u>\$ 856,334</u>

## SAN FRANCISCO WATER DEPARTMENT

RECEIPTS	
Revenues . . . . .	\$16,202,616
Prior Year's Surplus . . . . .	2,440,401
	<u>\$18,643,017</u>
EXPENDITURES	
Operations . . . . .	\$ 6,373,371
Standby Charge, Purchase of Hetch Hetchy Water . . . . .	4,500,000
Bond Interest, Redemption . . . . .	2,473,791
Betterments . . . . .	4,763,363
	<u>\$18,110,525</u>
UNAPPROPRIATED REVENUES . . . . .	<u>\$ 532,492</u>

## HETCH HETCHY PROJECT

RECEIPTS	
Standby Charge, Sale of Water to Water Department . . . . .	\$ 4,500,000
Revenue from Sale of Power . . . . .	6,938,874
Other Revenues . . . . .	65,627
Prior Year's Surplus . . . . .	1,101,365
	<u>\$12,605,866</u>
EXPENDITURES	
Operations . . . . .	\$ 4,947,119
Bond Interest and Redemption . . . . .	6,254,581
Betterments . . . . .	91,135
	<u>\$11,292,835</u>
UNAPPROPRIATED REVENUES . . . . .	<u>\$ 1,313,031</u>

## BUREAU OF LIGHT, HEAT AND POWER

RECEIPTS	
Transfers . . . . .	\$ 3,201,901
Taxes . . . . .	1,203,740
	<u>\$ 4,405,641</u>
EXPENDITURES	
Operations . . . . .	\$ 4,402,364
Betterments . . . . .	3,277
(NOTE: All figures subject to final audit) . . . . .	<u>\$ 4,405,641</u>

This report was prepared by the Bureau of Public Service, Room 287, City Hall, San Francisco 2, California. It is a confidential document and its contents should not be disclosed to the public without the approval of the Bureau of Public Service.

Additional copies of this Annual Report of the Public Utilities Commission covering fiscal year 1960-61 may be obtained from the Bureau of Public Service, Room 287, City Hall, San Francisco 2, California.



SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
ANNUAL REPORT 1961-1962



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## HIGHLIGHTS OF THE YEAR

Important changes occurred on the Public Utilities Commission during the year. PUC Vice President Henry W. Roden, business consultant and author, resigned October 5, 1961, and shortly thereafter left with his wife for a year of world traveling; he was replaced by Thomas F. Stack, 42-year-old attorney, who became the Commission's youngest member . . . June 12, 1962, Don Fazzackerley resigned to accept appointment to the Police Commission; he was replaced by Bert Simon, veteran food merchant, who had served for seven and a half years on Library and Fire Commissions, having been President of both Commissions . . . Fazzackerley, publisher of the San Francisco Shopping News, had joined the PUC in 1956, had been President in 1958, 1959 and 1961, left with the gratitude of his fellow Commissioners and the entire staff for his substantial contributions over the years . . . The Utilities family was saddened by the death of former long-time (January 19, 1949 to January 15, 1961) Commissioner Edward B. Baron on February 17, 1962, at the age of 77.

Approval of the \$115,000,000 water bonds in November, 1961, and the \$9,800,000 Airport garage bonds in June, 1962, presaged a substantial construction program for years to come in the counties outside of San Francisco in which the vast Utilities operations are located. The economic impact of the Utilities can also be measured in the \$1,653,091 taxes paid neighboring jurisdictions (San Mateo, Santa Clara, Alameda, San Joaquin, Stanislaus, Mariposa and Tuolumne Counties) by the SF Water Department (\$965,892), Hetch Hetchy Project (\$597,865—\$576,977 of which was paid Tuolumne County under protest), and SF International Airport (\$89,334) . . . San Mateo County's actual tax revenue derived from the Airport—its largest industry and greatest concentration of taxable wealth—totaled nearly \$1,250,000.

**The photo-rendering on the facing page shows a cross-section of the Market Street subway planned for downtown San Francisco as an integral part of the modern rail rapid transit network being developed by the Bay Area Rapid Transit District. High speed transit trains, connecting to routes throughout the East Bay via an underwater trans-bay tube, will utilize the lower level; streetcars of San Francisco's Muni will operate in subway's center level; upper level will be a pedestrian mezzanine. Voters of San Francisco, Alameda and Contra Costa Counties will determine if this picture will become reality when they decide on a \$792,000,000 bond proposal at the November, 1962, election.**

Total passengers at SF International Airport reached 5,706,640, a 13-percent increase over the 5,051,650 total for the preceding year . . . The Airport and its sister Utilities of the water system, SF Water Department and the Hetch Hetchy Project, continued their traditional self-supporting roles; only the Muni received tax support, to preserve its low 15-cent fare with free transfer privileges . . . The Muni entered its 50th year (See story starting on Page 2) by continuing its stand-out performance in the face of national decline trends by transporting 141,986,118 revenue passengers—an increase of more than half a million over the preceding year.

## ORGANIZATION OF THE UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the SF International Airport, the SF Municipal Railway, the SF Water Department, the Hetch Hetchy Project, Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Relations.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the utilities. Department and bureau heads are responsible to the Manager of Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the 12-month period beginning July 1, 1961 and ending June 30, 1962.

# THE MUNI'S FIRST 50 YEARS OF TRANSIT

The flag was filled out to 48 stars with the admission of New Mexico and Arizona to statehood. Woodrow Wilson was elected president. War raged in the Balkans—and fashionable ladies of the day wore clothes styled after the uniforms of the belligerent armies. Other women were marching on state capitols in an effort to gain the right to vote. The New York Giants were denying rumors the team was for sale and Jack Johnston reigned king of the heavyweight fisticuffers.

In San Francisco automobile dealers were advertising open-aired touring cars for \$305 and a steamship line offered a roundtrip to Honolulu for \$110. The most destructive earthquake and fire in history of half a dozen years before was all but forgotten; plans were rushed for a new City Hall and the most exciting topic of conversation was the forthcoming Panama Pacific International Exposition. Work on the new municipally-owned railway was winding up, and many wondered if it would be in operation by year's end.

The year was 1912 and it just barely did become the Municipal Railway's natal year. At exactly 12:00 o'clock noon on Saturday, December 28, a group of 10 brand new "California-type" streetcars proudly pulled out of the car barn at Geary and Presidio and headed east down Geary Street. At the confluence of Kearny, Geary and Market Streets a small ceremony had been planned for 12:30. Mayor "Sunny Jim" Rolph had been deliberate in insisting that the inauguration of Muni service be scaled down, rather than blown up. "Let's get the cars going all right first and toot our horn afterward" was the way he put it.

But the Mayor failed to foresee the citizenry enthusiasm that long before the appointed time had overflowed to such an extent that an expectant throng estimated at 50,000 had filled the five-proped intersection, effectively bringing all traffic movements to a stop by noon on that great day. And when he boarded the first car, deposited one of the first 40 nickels produced by the San Francisco Mint, and took over the controls, happy bedlam broke loose: The crowd roared, the siren on the roof of the St. Francis Hotel shrieked, the musicians of the Municipal Band strained to bring music into the din. Souvenir hunters laid coins on the tracks to be flattened by the weight of the car into collector's items; others jostled wildly in an effort to become "first" riders of the Muni.

It was a history-making event, for this bold experiment which San Francisco had undertaken was the first public-owned transit system in the United States. During the gala chaos of the occasion, Mayor Rolph declared, "It must prove a success!" Then he added, prophetically, "I want everyone to feel that it is but the nucleus of a mighty system of streetcar lines which will some day encompass this entire city."

One newspaper was moved to enthusiastic floridity: "San Francisco's Municipal Railway sprang into action yesterday, cutting with its pioneer wheels an indelible track across the page of history..."

The day was also a financial success as 15,000 people rode the rails during the Muni's first 12 hours of operation, paying \$750 in fares. "Owl" service was also inaugurated, with service running every hour. Thus a 23-year dream became a concrete fact. A number of previous attempts at a public transit system had been unsuccessfully made. Various bond issues had been placed before the people—all to be defeated by slim margins. The old City Charter adopted in 1900 declared for ultimate municipal ownership for all public utilities, but it was not until 1909 that a \$2,000,000 bond issue was voted. This was followed by track removal of the privately-owned Geary Street cable line and the start of construction of the Muni.

The Panama Pacific International Exposition was given next priority in the inauguration of new lines. In 1913 the city acquired the Union Street line. The following year the Stockton "F" and the Van Ness "H" lines were built. By the time the Exposition opened in 1915, there were six lines providing service to it as well as to the residential areas of Cow Hollow and North Beach. Service was established on the "C" and "J" lines in 1917.

Fully one-third of the city's area lay unpopulated in 1912. That same year test borings were being made for the construction of an 11,920-foot tunnel under Twin Peaks. Six years later—on Sunday, February 3, 1918—the first "K" car passed through the longest streetcar tunnel in the world. It was a significant transit "breakthrough," bringing service as far west as St. Francis Circle to the undeveloped West of Twin Peaks area. Later this service was extended to form the "K" and "L" lines to meet the increasing transit needs of the growing districts. The "M" line was started in 1925.

The Sunset district—where the sand dunes were gradually surrendering to the marching rows of homes—was next to reap the benefits of public transportation. On Sunday, October 21, 1928, service on the "N" line started. The occasion was another San Francisco "gala," with thousands lining Duboce Street from Market to the tunnel and the Ferry Building siren emitting undulating shrieks of joy as the first streetcar headed west to the Sunset, the indefatigable Mayor Rolph again at the controls. Like that other day back in December, 1912, this first day of "N" operation was a financial success, earning \$695.

While the "N" service marked the conclusion of construction of major streetcar lines by the Muni, the same period of streetcar expansion had seen the pioneering use of gasoline buses. These were used to interlace the city with crosstown lines to supplement the main streetcar lines which were bringing thousands of passengers daily from the newly-created Sunset and Parkside districts to the busy arteries of downtown San Francisco.

The No. 1 bus line, crossing Golden Gate Park, was established in 1918. Later, as the value of the motor coach in providing a system of flexible

The band played, sirens shrieked, the crowd roared as service on the Muni was inaugurated on December 28, 1912 (photograph, top of facing page) amidst happy bedlam. It was the first public-owned transit system in the United States. In 1918 the growing Muni introduced its first gasoline bus (bottom photograph) which crossed Golden Gate Park.



## THE FLEDGLING ONE-LINE OPERATION OF 1912 HAS GROWN INTO A VITAL CITY-SPANNING TRANSIT SYSTEM

transportation was realized, this line was extended over 10th Avenue and Fulton, Golden Gate Park, 9th Avenue, Irving and 7th Avenue to Forest Hill Station. Here it connected with the No. 3 bus line established in 1926 to serve the St. Francis Woods and Westwood Park areas. Another bus line was established along the Embarcadero from the foot of Hyde Street to the Southern Pacific Depot.

By 1928, while the movies were advertising "talkies" and the Stock Market was unaware of the approaching year of the Crash, the Muni had grown to a system of 1300 employees and 215 vehicles which was carrying 240,000 passengers daily.

In 1941 the Muni established its first trolley coach line, the "R", running on Howard Street and South Van Ness Avenue from Beale to Army. World War II interrupted plans for further conversion to trolley coach operations.

Throughout the first 32 years of its existence, the Muni operated in competition with various other transit systems. Before the turn of the century, in 1893, a number of these companies were merged in the newly organized Market Street Cable Railway. The second big transit consolidation took place in 1902 when the United Railroads of San Francisco was created by uniting the Market Street Railway, the Sutter Street cable system and the independent electric lines. Only three cable roads—the California Street, the Union Street and the Geary Street—remained independent. Of these, the Geary line ceased to exist with the construction of the Muni; later the Union line was absorbed by the fledgling Muni; and only the California Cable remained. The United Railroads had acquired a bond obligation from the Market Street Railway, and when the bonds became due in 1918, the United was unable to meet the obligation. This led to another reorganization in 1921 when the Market Street Railway Corporation was revived to take over the United Railroads. Since the transit field in San Francisco was thus narrowed to virtually only two systems, there developed between the privately-owned Market Street and the publicly-owned Muni an intense competition. Over the years, half a dozen attempts to purchase the Market Street Railway were defeated at the polls.

The recurrent decisions of the voters against consolidation placed the city in a peculiar position. Its declaration for ultimate public ownership a matter of record, the city knew that franchises on many Market Street lines had expired, but it could not take over—and improve—the service without voter approval.

Finally, in 1944, the battle between the two transit behemoths was resolved once and for all when San Francisco's voters authorized the purchase of the Market Street system—\$2,000,000 cash and \$5,500,000 in future earnings of the combined properties. September 29, 1944, was a milestone date in the Muni's history when, at 5 o'clock that morning, the merging of the two systems took place. Now all lines in San Francisco were under municipal ownership with the single exception of the California Cable line. (The California was taken over by the Muni in 1952.)

Due to the demands of a wartime economy, however, the Muni's modernization program was slow in getting underway. At war's end the most notable change was the removal of the outer tracks on Market Street; the track removal eliminated forever the sight of streetcars moving majestically two-abreast up and down the city's main thoroughfare, but it speeded up passenger service by providing more space for coach movements.

San Francisco felt the full impact of the really "new" Muni on Sunday, July 3, 1949—a red letter day for transit—when the old streetcars on the Nos. 5, 6, 7 and 21 lines were replaced by trolley coach operation. On that same day service was inaugurated or extended on nine motor coach lines—Nos. 1, 2, 3, 4, 20, 25, 31, 55 and "H"—night. A study of the affected lines showed a 64-percent increase in the frequency of peak-hour service, and the number of seats available on these lines during the peak riding hours was increased by 52 percent. Subsequently, the open-ended "iron monster" streetcars on the "J", "K", "L", "M" and "N" lines were replaced by streamlined, one-man PCC ("President Conference Car") streetcars. The last of the two-man "iron monsters" operated on a schedule run May 9, 1958, then rolled into retirement.

The postwar specter of the transit industry nationally has been the decline of passengers in inverse ratio to the increase of private transportation. The effect on Muni patronage has consistently been less than the national average due to its program of continued improvements in equipment and service and retention of a 15-cent fare with full transfer privileges. The fare is one of the country's biggest transit bargains, with only two other major cities, New York and New Orleans, charging comparable amounts.

Reason for the low fare is San Francisco's official policy to support transit as the least cost solution to the overall traffic problem. The policy is based on recognition of the Muni as a virtual "lifeline" between the heavily-populated outer districts and the vital downtown shopping and financial sections, an area small in size but giant in economic proportions since it comprises the major part of the City's tax base.

In San Francisco—with nearly the highest per capita riding habit in the United States—the system of today is so constructed that nine out of 10 people live within two blocks of a Muni route. This is a particularly convenient situation for a highly congested city sprawled over hills, valleys and generally dramatic terrain.

To serve its passengers—some 670,000 each weekday—the Muni schedules 835 vehicles over 691 round-trip miles of route on 61 bus, trolley coach, streetcar and cable car lines.

The little one-line system that started 50 years ago with the 10 streetcars proudly parading down Geary Street has grown to full size! In honor of the first 50 years, Mayor Christopher appointed a Muni Golden Anniversary Citizens' Committee, with Mrs. Hans Klusmann as chairman, to organize an appropriate celebration. At the fiscal year's end plans were being prepared for a city-wide "Muni Golden Week" program in October.





GEORGE CHRISTOPHER, Mayor of San Francisco

## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



STUART N. GREENBERG  
President



THOMAS P. WHITE  
Vice President



GEORGE F. HANSEN  
Commissioner



BERT SIMON  
Commissioner



THOS. F. STACK  
Commissioner



ROBERT C. KIRKWOOD  
Manager of Utilities



WILLIAM F. BOURNE  
Public Utilities Counsel



JAMES J. FINN  
Secretary to Commission

## HEADS OF THE UTILITY DEPARTMENTS



JAMES H. TURNER  
General Manager  
and Chief Engineer,  
S. F. Water Department



BELFORD BROWN  
Manager,  
San Francisco  
International Airport



VERNON W. ANDERSON  
General Manager,  
Municipal Railway  
of San Francisco



ORAL L. MOORE  
General Manager,  
Hetch Hetchy Project &  
Utilities Engineering Bureau



## 1961-62 BUDGET BRIEFS

### SAN FRANCISCO INTERNATIONAL AIRPORT

1961-62

RECEIPTS	
Revenues	\$ 6,780,922
Prior Year's Surplus	2,009,681
	\$ 8,790,603
EXPENDITURES	
Operations	\$ 2,822,626
Bond Interest and Redemption	2,578,917
Betterments	2,220,557
	\$ 7,622,100
UNAPPROPRIATED REVENUES	\$ 1,168,503

### MUNICIPAL RAILWAY OF SAN FRANCISCO

RECEIPTS	
Revenues	\$19,928,935
Other Income	35,615
Prior Year's Surplus	1,112,303
Taxes	5,764,024
	\$26,840,877
EXPENDITURES	
Platform Wages	\$10,122,603
Bond Interest, Redemption	1,610,058
Other Expenses	14,329,837
Betterments	93,300
	\$26,155,798
UNAPPROPRIATED REVENUES	\$ 685,079

### SAN FRANCISCO WATER DEPARTMENT

RECEIPTS	
Revenues	\$17,014,623
Prior Year's Surplus	3,158,823
	\$20,173,446
EXPENDITURES	
Operations	\$ 6,705,826
Standby Charge, Purchase of Hetch Hetchy Water	4,500,000
Bond Interest, Redemption	2,413,750
Betterments	3,858,706
	\$17,478,282
UNAPPROPRIATED REVENUES	\$ 2,695,164

### HETCH HETCHY PROJECT

RECEIPTS	
Standby Charge, Sale of Water to Water Department	\$ 4,500,000
Revenue from Sale of Power	8,567,010
Other Revenues	86,578
Prior Year's Surplus	3,387,338
	\$16,540,926
EXPENDITURES	
Operations	\$ 7,016,085
Bond Interest and Redemption	7,480,973
Betterments	122,366
	\$14,619,424
UNAPPROPRIATED REVENUES	\$ 1,921,502

### BUREAU OF LIGHT, HEAT AND POWER

RECEIPTS	
Transfers	\$ 3,282,552
Taxes	1,291,274
	\$ 4,573,826
EXPENDITURES	
Operations	\$ 4,572,429
Betterments	1,397
	\$ 4,573,826

(NOTE: All figures subject to final audit)

# PUBLIC UTILITIES FACT SHEET

CUSTOMER SERVICES	1959-60	1960-61	1961-62*
Airport Passengers	5,017,479	5,051,650	5,706,640
Air Shipments (pounds)	158,503,602	178,296,268	214,518,446
Transit Passengers (revenue)	142,094,969	141,293,284	141,986,118
Kilowatt Hours Sold	853,300,000	930,824,000	1,098,834,394
Water Consumption (gallons daily)	167,835,295	167,589,019	175,419,000
Street Lights	28,830	28,915	29,134
BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION			
Hetch Hetchy	\$134,149,330	\$168,355,308	\$168,438,393
Water Department	111,195,622	115,357,137	118,208,961
Municipal Railway	32,800,607	31,706,711	31,759,978
International Airport	58,110,004	60,261,638	66,017,646
TOTAL	\$336,255,563	\$375,680,794	\$384,424,978
TAX SUBSIDY			
Municipal Railway	\$ 5,351,506	\$ 5,462,507	\$ 5,764,024
Light, Heat and Power	1,178,403	1,203,740	1,291,274
TAXES PAID TO OUTSIDE JURISDICTIONS			
Water Department	\$ 962,425	\$ 937,603	965,892
International Airport	88,354	89,479	89,334
Hetch Hetchy	45,406	349,380**	597,865**
SALARIES AND RELATED WAGE BENEFITS			
Municipal Railway	\$ 17,219,201	\$ 18,070,233	\$ 18,654,246
Water Department	3,976,955	4,146,208	4,345,362
Hetch Hetchy	1,340,974	1,370,789	1,527,806
International Airport	1,413,270	1,653,774	1,731,516
Light, Heat and Power	85,939	94,282	94,971
NUMBER OF EMPLOYEES			
Municipal Railway	2,715	2,724	2,752
Water Department	520	528	529
Hetch Hetchy	280	275	271
International Airport	171	178	182
Light, Heat and Power	12	12	12
PUC General Office	24	24	24
TOTAL EMPLOYEES	3,722	3,741	3,770

\*All figures subject to final audit.

\*\*\$330,852 in 1960-61 and \$576,977 in 1961-62 paid under protest to Tuolumne County.

A gala city-wide "Muni Golden Week" program will start in San Francisco on October 14, 1962, according to elaborate plans being made by the Muni Golden Anniversary Citizens Committee. During the week-long 50th birthday celebration a Golden Coach, replete with historic transit exhibits, will tour the city; an art contest featuring Muni vehicles in typical San Francisco scenes will be held in the city's schools; a bell-ringing contest will be conducted in the downtown parks; the cable cars will be gaily decorated; and the festivities will be climaxed on October 18 by a Union Square celebration and a big "birthday party" luncheon at the St. Francis Hotel.



## PASSENGER TRAFFIC

1961-62	5,706,640
1960-61	5,051,650
1959-60	5,017,479
1958-59	4,275,675
1957-58	4,046,524
1956-57	3,684,830
1955-56	3,282,444
1954-55	2,879,366

## AIR EXPRESS AND FREIGHT

(pounds)

1961-62	147,478,811
1960-61	119,585,659
1959-60	111,986,915
1958-59	103,177,998
1957-58	88,273,800
1956-57	89,486,910
1955-56	75,366,072
1954-55	57,184,920

# THE S. F. INTERNATIONAL AIRPORT

Record highs in revenues and traffic were registered at San Francisco International Airport during fiscal 1961-62.

The 5,706,640 total passengers through the airport during the year represented an increase of 13 percent over the 5,051,650 total for the previous fiscal period, and was the third largest gain percentage-wise in the last decade. This increase also was substantially above the national industry average as reflected by the 4.4 per cent gain in revenue passenger miles flown by the domestic trunklines.

During the last six months of the fiscal year, passenger volume was up 19.6 percent over the corresponding period of fiscal 1960-61. The national average was reported at 12.3 percent.

The Airport increased its rank from fifth to fourth major air hub in the nation, and fifth largest in the world in terms of scheduled airline passenger volume. And of more than passing interest is the fact that during the 1961 calendar year, more than nine percent of the 57.6 million passengers carried by all U. S. airlines, passed through San Francisco's international airport.

The passenger volume increase also was reflected, to a lesser degree, in the 151,982 aircraft movements—landings and take-offs—by scheduled air carriers, an increase of 8 percent. Total aircraft movements were up nearly 2 percent to 220,315, an average of more than 25 per hour, day and night throughout the year. The increased use of jet-powered aircraft by the scheduled carriers clearly is indicated by the fact that, at the beginning of the fiscal year, jet movements accounted for about 50 percent of the total and, at the close of the year, for more than 75 percent.

The year saw two new scheduled carriers added to the Airport's list of airline tenants, bringing the total to 17. Delta Air Lines inaugurated new service to the southeastern states in October, 1961, and in June the Philippine Air Lines resumed flights between San Francisco and Manila, via Honolulu, after a lapse of eight years. Other airlines serving SFIA are American Airlines, British Overseas Airways, Flying Tiger Line, Japan Airlines, Lufthansa German Airlines, National Airlines, Pacific Air Lines, Pacific Southwest Airlines, Pan American World Airways, Qantas Empire Airways, San Francisco and Oakland Helicopter Airlines, Trans World Airlines, United Air Lines, West Coast Airlines and Western Airlines.

A major addition to the Airport's roster of tenants was Slick Airways which transferred its headquarters here from Burbank, California, in January. A government contract carrier in recent years, Slick will re-enter the scheduled freight-carrier ranks by the end of the first quarter of the new fiscal year to give SFIA an 18th scheduled carrier. Impressive new gains in mail, air express and air freight were recorded during the year. The mail volume of 67,039,635 pounds was 14.2 percent more than for the previous fiscal period. Air express totaled 10,489,453 pounds, up 8.1 percent, and air freight gained 24.7 percent to 136,989,358 pounds. Air freight originating at the Airport totaled 79,286,975 pounds to rank San Francisco International Airport in fourth place among the nation's major air hubs.

Operating revenues for the year from airlines, other tenants and concessionaires totaled \$6,791,706. This was \$215,019 above budget estimates and nearly 11 percent in excess of the fiscal 1960-61 total. These revenues enabled the Airport to meet all operating and debt service costs and to provide a surplus to be used for future Airport improvements and betterments.

Major improvements by the Airport and its principal tenants were either started or planned during the year to keep pace with the spectacular

growth of the jet-age air traffic. These included fill for extending Runway 28L 2,370 feet to a total of 9,500 feet to provide a second east-west jet runway, at a cost of \$2 million; start of construction on a \$12 million South Terminal to increase the Airport's capacity for handling passengers by more than 60 percent; construction work on remodeling of Pier C to cost some \$2 million to meet increasing jet requirements of United Air Lines; expansion of fuel storage facilities by nearly 70 percent from 52 million gallons to almost 75 million gallons; construction of a service hangar by Pacific Southwest Airlines at a cost of \$250,000; fill for Plot I, site of a Pan American World Airways hangar and service center at a cost of \$350,000.

A new milestone in the development of the Airport's Master Plan was passed with voter approval of a \$9,800,000 bond issue for construction of the first segment of an 8,000-car capacity parking garage. This initial segment will accommodate some 2,850 cars and completion is programmed for the spring of 1965.

A high standard of services to air passengers and visitors was maintained throughout the year by Airport tenants and concessionaires. These services were provided by a medley of restaurants, shops and bars, banking, insurance, auto parking and rental facilities, post office, hotel accommodations and even nursery facilities for traveling mothers with small children. The \$2½ million Hilton Inn which provides a resort atmosphere to air travelers with 300 luxury rooms, bars, restaurants and swimming pools, announced an expansion program to cost in excess of a million dollars.

Constructed on nearly 2,100 acres of reclaimed tidelands-area in northern San Mateo County—with an additional 3,200 acres available for future expansion—the Airport's impressive economic importance to the whole Bay Area, and especially the Peninsula, was increased. Employments at SFIA passed the 15,000 mark with an annual payroll estimated to be in excess of \$120 million. About 75 percent of these employees, with an annual payroll of nearly \$90 million, are residents of the Peninsula's San Mateo and Santa Clara Counties. The Airport also has the largest concentration of taxable wealth in San Mateo County to which the Airport and its tenants and concessionaires paid approximately \$1,200,000 in county property taxes during 1961.

Air express and freight have soared 158-percent in the last eight years. With a continuation of this vast increase anticipated in the next five years, San Francisco is now moving toward the concept of an "air cargo city" at the Airport. Meanwhile, three large airmail and cargo buildings have been placed in operation. Poundage of total air shipments—mail, express and freight—during the year increased to a record total of 214,518,446.



## S. F. LAUNCHES A \$115,000,000 PROGRAM TO MEET SERVICE AREA WATER NEEDS

Fiscal 1961-62 was a year of history-making progress for the great water system that starts at Hetch Hetchy in the High Sierra and flows 167 miles to join with the local reservoirs in the perennial task of slaking the domestic and industrial thirst of San Francisco, the Peninsula and the South Bay. During the year:

1—A \$115,000,000 water bond proposition was passed by an overwhelming majority. The single largest measure ever to be approved by San Francisco voters, it was designed as a self-supporting program to nearly double the water system's delivery capacity and to more than double its storage capacity.

2—Engineering was commenced immediately following passage of the water bonds, and construction of the most vital elements—to increase delivery—was programmed to start in fiscal 1962-63.

3—All of the suburban wholesale customers signed long-term contracts to purchase their supplemental water from the San Francisco Water Department, thus guaranteeing a firm market for water sales during the repayment period of the water bonds.

4—A system-wide rate reduction for both San Francisco and suburban customers of the Water Department was approved by the Public Utilities Commission, an action stemming directly from passage of the water bonds.

5—For the first time since 1958 giant Hetch Hetchy filled to capacity, as did its companion Tuolumne County reservoirs, Lake Lloyd and Lake Eleanor—a circumstance assuring an abundant supply of water and uninterrupted operation of the city's mountain hydroelectric plants.

6—Major construction was under way on the Canyon power project, second of the two High Sierra developments—the Cherry power project was completed in 1960—under the \$54,000,000 bond issue of 1955. Passage of the water bonds—in November, 1961, by an unprecedented 11-to-1 vote—meant that the system could be built to a capacity that will meet future needs of San Francisco and continue to meet the constantly-increasing needs of the booming suburban areas served by the Water Department. This area, which relies on Hetch Hetchy for a good two-thirds of its water and on local storage for the rest, includes most of San Mateo County and parts of northern Santa Clara and southern Alameda counties.

The urgent necessity to expand the system at this particular time is pointed up by the steep climb in average consumption since 1930 when the city bought the Spring Valley Water Company and went into the water business. Then it was 52,000,000 gallons per day—for fiscal 1961-62 it was more than 175,000,000 gallons daily! This would have been uncomfortably close to the 180,000,000 gallons considered to be the safe sustained daily delivery capacity of the present system—the "ability to serve" capacity—had not the water bond program been approved.

As it progresses, the program will provide solutions to the water problem in two areas:

1—Construction of additional aqueduct and local storage to increase the system's delivery capacity to approximately 300,000,000 gallons

daily. This will nearly double the present capacity and will take care of the service area's expanding water needs at least to the year 1985.

2—Construction of additional water storage in the mountains to guarantee the system's eventual ability to serve a dependable supply of 400,000,000 gallons daily to its customers.

With increased delivery capacity being the most urgent requirement, top engineering priority was given to a third pipeline across the San Joaquin Valley and a fourth pipeline to carry water from the Irvington portal of the Coast Range tunnel in Alameda County to the east portal of Pulgas Temple in San Mateo County, the estimated cost of the two projects being \$44,500,000.

Construction of the San Joaquin pipeline across 47 miles of the valley, on the same right of way occupied by the present two pipelines, will start in the late summer of 1962. It will increase the aqueduct's capacity to about 295,000,000 gallons per day.

The fourth Bay Division pipeline which will be under construction in the spring of 1963, will augment the transmission capacity of the present three pipelines—two across the lower bay and one around the south bay—which are regularly used to their maximum capacity. The new pipeline will parallel Bay Division Pipeline No. 3 on its right of way around the southerly end of the bay.

Another water bond project scheduled for spring, 1963, construction is the \$6,500,000 dam on San Antonio Creek in southern Alameda County, which will not only catch and store San Antonio Creek water but will also provide additional Bay Area storage for water from Hetch Hetchy. Even before the water bond proposition was approved by San Francisco voters, most of the suburban wholesale customers had signed long-term contracts to purchase supplemental water from the Water Department. Firm markets for water sales in addition to the sale of the Hetch Hetchy Project's hydroelectric power were the basis for the self-liquidating feature of the bond proposal. It was on this basis, too, that both San Francisco and suburban customers were assured of a water rate reduction within a year after passage of the bonds.

It didn't take a year, however, for the Public Utilities Commission to act. Less than six months after the election—on May 1, 1962—a system-wide reduction went into effect. By that time all of the wholesale customers had signed contracts.

The new schedule reduced San Francisco water rates 6.8-percent while those to the wholesale customers were reduced 5.6 percent. It represented a 25-cent cut in the average city home owner's bill, but whether it meant lower bills for suburban householders was entirely up to the wholesalers from whom they purchase water.

The difference between the reduction in San Francisco and in the suburban area is based on the historical difference of about 18-percent between pricing of water sales inside and outside the city.

The runoff from the snowpack in the high Tuolumne County watershed is the key to the operation of the vast Hetch Hetchy water-power complex. The last good water year was 1958 when the runoff had been 139-percent of normal and the melting snows had filled Hetch Hetchy





A record run-off of melting snow from the granite-faced watershed of the Tuolumne River in the High Sierra had filled Hetch Hetchy reservoir to capacity by mid-June, and O'Shaughnessy Dam spilled for the first time since 1958.

reservoir to capacity. The next three successive years were dry throughout an increasingly worried California, with Hetch Hetchy runoffs of 62, 69, and 52-percent of normal resulting in periodic curtailment of the city's mountain power plants.

The situation reached its worst in 1961 when Lake Lloyd was for all practical purposes empty on September 1, causing a five-month shut-down of the year-old Cherry powerhouse which is dependent on Lake Lloyd water for its operation. The other powerhouse, Moccasin, was operated at about 50-percent of capacity during the fall and winter. Precipitation during December and January indicated the grim possibility of a fourth dry year. Then a dramatic series of storms covered the State in February and March, leaving an above-normal (104-percent) snowpack on the Sierra peaks. The spring and summer sun did the rest, mothering

the melting snows down the granite-faced watershed to fill Lake Lloyd (268,200 acre-feet), Lake Eleanor (27,100 acre feet), and Hetch Hetchy (360,400 acre feet). Hundreds of excited spectators from nearby Camp Mather were present to witness the historic moment on Friday morning, June 22, when brimming Hetch Hetchy reservoir started to spill over the three drum gates of O'Shaughnessy Dam.

By fiscal year's end, major construction was well under way on the Canyon power project. This development will take Hetch Hetchy water through a 10-mile tunnel from O'Shaughnessy Dam to Early Intake where it will be dropped to a powerhouse. When Canyon power goes on the line (in 1965), its rated capacity of 67,500 kilowatts added to Cherry's 135,000 and Moccasin's 70,000 will increase the total generating capacity of the city's power system to 272,500 kilowatts.

## ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission. (An exception is the SF Water Department, which has its own engineering division.)

The Bureau has full charge of the Hetch Hetchy water supply and electric power system, also performs engineering work for the SF International Airport and the SF Municipal Railway. This latter function includes planning and supervising all new construction for these three utilities and the provision of engineering services in connection with maintenance and reconstruction of existing facilities. Total value of construction work performed under the Bureau's direction during the year on the Hetch Hetchy Project, Airport and the Muni was approximately \$6,291,000; at fiscal year's end an additional \$17,112,000 of work was under construction.

The Bureau prepared plans and specifications for the awarding of construction contracts totaling \$22 million dollars in 1961-62. At the fiscal year's end, plans and specifications for over \$15 million dollars of construction for the San Francisco International Airport, Hetch Hetchy Project, and the Muni were being prepared. In September, 1961, construction on the \$8,500,000 South Terminal building at San Francisco

International Airport were started, while January, 1962, saw the start of construction of the Canyon Power Tunnel, a major element in Hetch Hetchy's Canyon Power Project. Preliminary plans for the first stage of the Airport garage were reviewed and approved, and plans and specifications were completed for the first two sections of the No. 3 San Joaquin Pipeline, construction of which is scheduled for 1962-63.

## LIGHT, HEAT AND POWER

The Bureau of Light, Heat and Power is another dual-role member of the utilities family, combining the functions of a service bureau—to provide for furnishing utility services for municipal purposes—with those of an operating bureau which provides for the lighting of public streets in San Francisco.

A total of 268,283,987 kilowatt-hours of electric energy generated by the Hetch Hetchy System was supplied municipal accounts (including street lighting and traffic devices, the Muni transit system, SF International Airport, and the lighting of municipal buildings) during the year, while the Pacific Gas and Electric Company furnished under contract 13,786,928 hundred-cubic-feet of natural gas and 2,083,200 pounds of steam. The total number of city-owned, PG&E-owned and jointly-owned street lights at fiscal year's end was 29,134.

## SPECIAL BUREAU FUNCTIONS

### BUREAU OF ACCOUNTS

This Bureau is responsible for the supervision and coordination of the financial affairs of all utilities. Departmental budgets are prepared under the direction of the Accounts Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. In addition it assists with negotiation of all leases of utilities property. Figures prepared by the Bureau reveal that properties under the jurisdiction of the PUC have a book value before depreciation (as of June 30, 1962) of \$384,424,978.

GEORGE P. NEGRI, Director, Bureau of Accounts

### PERSONNEL AND SAFETY BUREAU

The processing of employments, terminations, transfers and leaves of absence of all employees is one of the responsibilities of this Bureau which maintains complete personnel records for the 3,770 employed in the various utilities as of June 30, 1962.

Important safety functions include training Muni transit platform workers, processing data for safety awards, compiling accident and injury reports, setting up and administering transit and industrial safety programs for the utility departments, and taking part in San Francisco traffic surveys with respect to general and public traffic safety.

PAUL J. FANNING, Director, Bureau of Personnel & Safety

### PUBLIC RELATIONS BUREAU

Public information, customer, employee and public relations are the responsibility of this Bureau, which has its main office at City Hall with branch offices at the Muni transit system and the SF International Airport. Working with press, television and radio, through tours of the far-flung utilities properties, through publications such as this Annual Report and educational programs with schools, clubs and civic groups, information regarding the operation of San Francisco's public utilities is widely disseminated to its citizen-owner-customers.

WILLIAM SIMONS, Director, Public Relations Bureau



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Additional copies may be obtained from the Public Relations Bureau, PUC, Room 287, City Hall, San Francisco 2, California.







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EXHIBIT TO  
DEC 29 1963  
SAN FRANCISCO  
PUBLIC UTILITIES COMMISSION

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SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
ANNUAL REPORT 1962-1963



## HIGHLIGHTS OF THE YEAR

During one of the most active fiscal years in its 32-year history, the Public Utilities Commission re-elected President Stuart N. Greenberg (now in his seventh year on the PUC) and Vice President Thomas P. White . . . The broad community representation on the PUC is reflected by the varied occupations of its five members who devote countless hours in the interests of the sprawling multi-million dollar Utilities operations in addition to their regular public meetings on Tuesday afternoons: Greenberg (who was re-appointed to his third term, to Jan. 15, 1967) is a bronze manufacturer; White, a labor official; George F. Hansen, a business executive; Thos. F. Stack, an attorney; Bert Simon, a food merchant . . .

Faced with the upcoming retirement of Water Department General Manager James H. Turner (Sept. 1, 1963) and Assistant General Manager George D. Burr (Dec. 1, 1963), the PUC: 1) Announced plans for merging the Water Department and Hetch Hetchy Project into a new Department of Water and Power; 2) Named 41-year-old Oral L. Moore, present General Manager of Hetch Hetchy and the Utilities Engineering Bureau, to head up the new department; 3) Announced plans to merge all engineering offices of the PUC into the Utilities Engineering Bureau; 4) Named 52-year-old Wesley F. Getts, senior civil engineer, to take charge of the reorganized UEB . . . Voters had approved the merger plans in November, 1962 . . .

It was a year during which representatives of all Northern California counties and cities organized into a most unusual Airport Citizens Committee to plan the formal launching of San Francisco International Airport into a unique and challenging "new era" . . . The flight symbol of the New Era Airport — the design of Donald G. Clever — hovers over this and other pages, as well as the cover, of this annual report . . . Poised on its "new era" threshold, San Francisco International established a new passenger volume record — 6,352,389, up 11.3 percent over the previous year — saw the virtual completion of the \$14 million South Terminal, the \$5 million modernization start of 9-year-old Central Terminal, and was about to commence construction of the \$9.5 million "world's first" Airport Garage. (See story, starting on Page 5) . . .

Additional millions of construction dollars were being spent during the year in the counties outside San Francisco in the Utilities' vast program to meet future water needs of the Bay Area . . . In Tuolumne County the \$11.2 million Canyon power tunnel was half-completed; in Stanislaus and San Joaquin Counties the \$22 million 47-mile-long Pipeline No. 3 across the San Joaquin Valley was one-fourth completed; construction was barely started before year's end on the \$22.5 million Bay Division Pipeline No. 4 that will round the South Bay through Alameda, Santa Clara and San Mateo Counties; and the \$6.5 million James H. Turner Dam (see picture on Page 11) was launched near Sunol in Alameda County with a combination ground-breaking and dedication ceremony on May 2, 1963 . . . The economic impact of the Utilities on its neighboring counties can also be measured by the \$1,277,571 taxes paid by the Water Department, International Airport and the Hetch Hetchy Project . . . San Mateo County's actual tax revenue derived from the total Airport complex — its largest industry and greatest concentration of taxable wealth — exceeded \$1.6 million . . .

It was another year during which the Municipal Railway continued the performance of one of the most vital and challenging transit operations in the entire country . . . Total passengers carried was 207,035,589, total revenue passengers was 141,407,779 . . . San Francisco took an appreciative look back over the past 50 years of its municipally operated transit system and decided the Muni deserved a Golden Anniversary celebration. (See Pages 8 and 9 for the story and "family album" pictures) . . .



GEORGE CHRISTOPHER  
Mayor of San Francisco

## THE PUBLIC UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operations of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the SF International Airport, the SF Municipal Railway, the SF Water Department, the Hetch Hetchy Project, Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Relations.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice-president, hold weekly public meetings to transact business of the utilities. Department and bureau heads are responsible to the Manager of Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the 12-month period beginning July 1, 1962 and ending June 30, 1963.

STUART N. GREENBERG  
President, San Francisco  
Public Utilities Commission



THOMAS P. WHITE  
Vice President



GEORGE F. HANSEN  
Commissioner



THOS. F. STACK  
Commissioner



BERT SIMON  
Commissioner





ROBERT C. KIRKWOOD  
Manager of Utilities



JAMES H. TURNER  
General Manager and Chief Engineer,  
San Francisco Water Department



BELFORD BROWN  
General Manager, San Francisco  
International Airport



VERNON W. ANDERSON  
General Manager, Municipal  
Railway of San Francisco



ORAL L. MOORE  
General Manager, Hetch Hetchy Project  
and Utilities Engineering Bureau



WILLIAM F. BOURNE  
Public Utilities Counsel



JAMES J. FINN  
Secretary to Commission

## 1962-63 BUDGET BRIEFS

### SAN FRANCISCO INTERNATIONAL AIRPORT

1962-63

#### RECEIPTS

Revenues	\$ 7,296,759
Prior Year's Surplus	2,475,080
	\$ 9,771,839

#### EXPENDITURES

Operations	\$ 3,029,033
Bond Interest and Redemption	2,416,379
Betterments	1,292,600
	\$ 6,738,012

#### UNAPPROPRIATED REVENUES

\$ 3,033,827

### MUNICIPAL RAILWAY OF SAN FRANCISCO

#### RECEIPTS

Revenues	\$19,903,052
Other Income	9,020
Prior Year's Surplus	962,500
From General Fund	200,000
Taxes	6,082,705
	\$27,157,277

#### EXPENDITURES

Platform Wages	\$10,617,560
Bond Interest, Redemption	1,548,176
Other Expenditures	14,232,355
Betterments	49,974
	\$26,448,065

#### UNAPPROPRIATED REVENUES

\$ 709,212

### SAN FRANCISCO WATER DEPARTMENT

#### RECEIPTS

Revenues	\$16,329,093
Prior Year's Surplus	3,774,252
	\$20,103,345

#### EXPENDITURES

Operations	\$ 7,236,388
Standby Charge, Purchase of Hetch Hetchy Water	5,000,000
Bond Interest, Redemption	2,421,944
Betterments	4,825,905
	\$19,484,237

#### UNAPPROPRIATED REVENUES

\$ 619,108

### HETCH HETCHY PROJECT

#### RECEIPTS

Standby Charge, Sale of Water to Water Department	\$ 5,000,000
Revenue from Sale of Power	8,930,781
Other Revenues	117,238
	\$14,048,019

#### EXPENDITURES

Operations	\$ 4,070,348
Bond Interest and Redemption	8,145,052
Betterments	74,098
	\$12,289,498

#### UNAPPROPRIATED REVENUE

\$ 1,758,521

### BUREAU OF LIGHT, HEAT AND POWER

#### RECEIPTS

Transfers	\$ 3,223,168
Taxes	1,199,408
	\$ 4,422,576

#### EXPENDITURES

Operations	\$ 4,422,576
Betterments	

\$ 4,422,576

(NOTE: All figures subject to final audit)

# PUBLIC UTILITIES FACT SHEET

	1960-61	1961-62	1962-63*
<b>CUSTOMER SERVICES</b>			
Airport Passengers . . . . .	5,051,650	5,706,640	6,352,389
Air Shipments (pounds) . . . . .	178,296,268	214,518,446	233,931,902
Transit Passengers (revenue) . . . . .	141,293,284	141,986,118	141,407,779
Kilowatt Hours Sold . . . . .	930,824,000	1,104,712,038	1,221,326,031
Water Consumption (gallons daily) . . . . .	167,589,019	175,419,000	179,183,000
Street Lights . . . . .	28,915	29,134	29,355
<b>BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION</b>			
Hetch Hetchy . . . . .	\$168,355,308	\$168,586,347	\$168,718,538
Water Department . . . . .	115,357,137	118,208,961	119,366,862
Municipal Railway . . . . .	31,706,711	31,713,246	31,772,860
International Airport . . . . .	60,415,819	65,775,583	67,454,914
TOTAL . . . . .	\$375,834,975	\$384,284,137	\$387,313,174
<b>TAX SUBSIDY</b>			
Municipal Railway . . . . .	\$ 5,462,507	\$ 5,762,320	\$ 6,082,705
Light, Heat and Power . . . . .	1,203,740	1,291,274	1,199,408
<b>TAXES PAID TO OUTSIDE JURISDICTIONS</b>			
Water Department . . . . .	\$ 937,603	\$ 965,892	\$ 992,419
International Airport . . . . .	89,479	89,334	94,254
Hetch Hetchy . . . . .	88,272	162,387	190,898
<b>SALARIES AND RELATED WAGE EARNERS</b>			
Municipal Railway . . . . .	\$ 18,070,233	\$ 18,642,895	\$ 19,497,583
Water Department . . . . .	4,146,208	4,345,362	4,935,115
Hetch Hetchy . . . . .	1,370,789	1,527,806	1,617,998
International Airport . . . . .	1,653,774	1,731,516	1,878,332
Light, Heat and Power . . . . .	94,282	94,971	96,475
<b>NUMBER OF EMPLOYEES</b>			
Municipal Railway . . . . .	2,724	2,711	2,684
Water Department . . . . .	528	529	589
Hetch Hetchy . . . . .	275	271	292
International Airport . . . . .	178	182	182
Light, Heat and Power . . . . .	12	12	12
PUC General Office . . . . .	24	24	24
TOTAL EMPLOYEES . . . . .	3,741	3,729	3,783

\*All figures subject to final audit.

An important area-wide economic aspect of the Utilities operations is pointed up by more than \$8 million in salaries paid employees of the Water Department, Hetch Hetchy Project and San Francisco International Airport. A substantial portion goes to employees living outside of San Francisco, in Counties around the Bay, in San Joaquin Valley Counties traversed by the Hetch Hetchy aqueduct, and in Tuolumne County in which the water system's giant complex of dams, reservoirs, power plants and tunnels is located. In addition to contributing to the economic well being of the areas in which they live, many of the men and women of the Utilities family play active parts in the civic life of their communities.







## A RECORD-SHATTERING YEAR FOR "NEW ERA" AIRPORT

The importance of San Francisco International Airport to Northern California received dramatic re-statement and emphasis during a year in which record-shattering growth and progress continued on all fronts at this fifth most active commercial aviation airport in the world.

The spectacular growth in traffic which SFIA has experienced since the Central Terminal was opened in 1954 continued throughout the year with new highs established in passenger, mail and air cargo volumes and in revenues.

Passengers topped the six-million mark for the first time in the terminal's nine-year history with a total of 6,352,389 — an 11.3 percent increase over the 1961-62 fiscal year. The June total of 643,646 set a new passenger record for any single month.

Although the year's record passenger load strained the facilities of the Central Terminal — built to handle a peak capacity of five million — the virtual completion during the year of the South Terminal was reassurance of the Airport's capability to handle up to 12 million passengers in future years.

The year's gain enabled SFIA to maintain its position as one of the world's major air hubs: Only three United States cities (New York, Chicago and Los Angeles) exceed its passenger traffic; internationally, it is exceeded only by London. During the previous fiscal year it had moved from fifth to fourth position nationally in terms of scheduled airline passenger volume.

The volume of mail handled through SFIA for the year totaled 71,793,443 pounds, a gain of 7.1 percent. Of the total, 56,532,249 pounds were air mail and the remaining 15,261,194 pounds were first class mail transported by air. This represented more than 100 percent increase since 1954.

Even more phenomenal has been the increase of air express and freight whose volumes have rocketed more than 191 percent during the same period. In 1954 the total was 57,184,920 pounds; during the past fiscal year it was 162,138,459 pounds. Broken down, the 11,717,707 pounds of air express was an increase of 11.7 percent over the previous fiscal year, while the 150,420,752 pounds of air freight was an increase of 9.8 percent.

The year's operating revenues of \$7,296,759 represented a 7.61 percent increase, and operating expenses were up 7.31 percent to \$3,029,033. The revenue gains generally were attributed to the increased passenger volume and a resulting gain in services offered at the Airport.

Aircraft movements — landings and takeoffs — of all classifications numbered 225,843, up 2.4 percent. Scheduled carrier movements, however, gained 7.9 percent to 164,061, of which more than three-fourths were by jet-powered aircraft. The larger percentage increase in passenger volume (11.3 percent), when viewed with gains in scheduled carrier movements (7.9 percent), indicates that airlines operating from San Francisco attained increased load factors.

Airport development in accordance with the Master Plan continued throughout the year to meet the continuing demands of the subsonic phase of the Jet Age and as a preliminary to the anticipated still greater challenges resulting from the predicted introduction of supersonic airliners before the end of the decade.

The Master Plan received a significant appraisal during the year by a most unusual Citizens Committee which responded to Mayor George Christopher's invitation to prepare for an appropriate program in the fall of 1963 when the \$14 million South Terminal was scheduled for formal opening. The committee was unusual because it included 359 prominent citizens representing practically all the cities and counties in California from Kern County north. A particularly broad Bay Area representation was reflected by its chairman, Joseph Martin, Jr., and officers — Herschel J. Brown, T. Louis Chess, J. Hart Clinton, Gavin A. Cullen, Alvin F. Derre, Nils Eklund, Don Fazackerley, Roger Kent, William F. Knowland, Cyril Magnin, Mrs. John Menzies and Elbert E. Schlesinger.


The Citizens Committee, after carefully reviewing the boldly unorthodox program for the development of the terminal area, decided that San Francisco International was, in fact, "The New Era Airport." It noted that the uniquely concentrated terminal area development — while reversing the decentralized pattern of other major world airports — will, when completed, provide its customers with the same kind of ease and convenience that characterize today's commercial aviation.

Literal proof of the New Era Airport's commitment to the principle of customer convenience was the functional form of the South Terminal, sweeping in an 800-foot arch from its connection with Central Terminal at Concourse "E".

Another proof was the start at year's end of what was to be for many months a giant hole in the ground in front of the two terminals but would, in two more years, be transformed into a multi-level \$9.5 million garage.

Central Terminal — the structure that gave international status to San Francisco's airport — was already undergoing the substantial start of a \$5 million transformation. Elements of this program include the conversion of Pier "C" into a "jet wheel" twin to Pier "B" — both areas occupied by United Air Lines which is participating in the reconstruction in excess of \$1 million — the installation of a 640-foot "speedwalk" in the concourse connecting the two piers, and an extensive interior modernization. At year's end the Pier "C" conversion was nearing completion. Interior remodeling and "speedwalk" installation were programmed to commence after the South Terminal opened.

Twelve million persons will use the two terminals each year with less confusion and more convenience than 6 million have experienced in the Central Terminal. But the present and recent passenger traffic growth clearly indicates that a third terminal may be re-



quired before the end of this decade. In early 1959 a Federal Aviation Agency projection had forecast an annual passenger volume of 8.4 million at SFIA in 1970. However, with the fiscal year's total just slightly more than 2 million short, that figure could be attained within the next four years.

Two more phases of the Airport Garage will bring its accommodations from the first phase of 2850 — which alone will make it the world's largest — to an ultimate maximum of 8000 automobiles. These subsequent extensions of the garage will be programmed in accordance with increasing needs, and the completed project will eventually fill the oval created by the south and north terminal wings extending out from Central Terminal.

The keystone element designed into the entire development is the character of service; the paramount objective is convenience for people who want to fly. It was on the basis of this analysis that the Airport Citizens Committee selected the "new era" theme for the pacemaking development program as they proceeded to plan for the opening of South Terminal.

Air cargo volume — air express and freight — continued to tax present facilities during the fiscal year, pointing up the need for additional interim cargo space in the immediate future. Articles shipped by air to and from San Francisco are many and varied, ranging from tiny radio-active cobalt needles to steam turbines weighing as much as 11 tons.

Air cargo facilities at SFIA include nearly 30 acres of buildings, taxiways, parking and related areas, with approximately 150,000 square feet of warehousing and operations. All of this area is occupied and being utilized to near capacity.

The Master Plan for total Airport development calls for the eventual use of 300 acres for an "Air Cargo City" — an area where special industrial plants will be constructed for processing and manufacturing materials for trans-shipment by air.

An interesting aspect of SFIA's management operation was apparent in the announcement in December, 1962 that more than 70 percent of the space available to air carriers in the South Terminal had been committed. This pointed up the policy of constructing facilities to meet needs, of building within the framework of financial feasibility. Actually, the agreement of Trans World Airlines in May, 1959 to become the prime tenant — paying \$201,840 annually for 30,241 square feet with a commitment to invest \$1.8 million in expanded operational and passenger service facilities — had constituted the necessary pledge for preliminary financing.

Other tenants who were scheduled to follow TWA when the new terminal opened in the fall of 1963 included Pan American World Airways — which started construction of a \$3.5 million service and maintenance hangar on Plot 1, adjacent to Hilton Inn, during the year — American Airlines, British Overseas Airways, Japan Airlines, Lufthansa German Airlines, Philippine Airline, Qantas Empire Airways, West Coast Airlines and Western Airlines. Western — which will pay \$128,040 annually for 18,860 square feet — was scheduled to have the exclusive use of a new pier to be constructed during the

next fiscal year.

Air carriers in addition to United Air Lines scheduled to remain in Central Terminal were Delta Air Lines, National Airlines, Pacific Air Lines, Pacific Southwest Airlines and San Francisco-Oakland Helicopter Airlines.

Other air carriers making the total of 18 scheduled airlines at SFIA were the Flying Tiger Line and Slick Airways.

Actually a city within itself, the Airport is uniquely equipped to serve its daily average of more than 17,000 passengers. Every need is provided for — from the Federal Government's myriad of navigational aids required for the safe flow of air traffic, and Customs, Immigration, Public Health, Weather Bureau and Post Office services, to an intriguing medley of bars and restaurants — including the famed International Room — shops, banking, insurance, parking and rent-a-car services, even to special nursery facilities for mothers with small children.

Full hotel services in a resort atmosphere are offered by the \$2.5 million, 300-room Hilton Inn, just inside the Airport's entrance. At fiscal year's end Hilton Inn was contemplating a large \$1 million-plus expansion program, while Interstate Hosts, Inc., was investing more than \$750,000 in new restaurant, bar and inflight kitchen facilities in the South Terminal to bring its total Airport investment to \$2 million.

The Airport is the largest industry in San Mateo County — in which it is located — and is the largest concentration of taxable wealth in the county. The county's actual tax revenue derived from the total Airport complex, including tenants, exceeded \$1.6 million during the fiscal year.

More than 16,000 persons are employed on the Airport, with an annual payroll in excess of \$125 million. An estimated 75 percent of those employed — with a yearly payroll of nearly \$94 million — are residents of Peninsula communities.

In a like manner, economic benefits stemming from the Airport's phenomenal growth have been a key factor throughout the burgeoning Bay Area as well as throughout Northern California.

An interesting service aspect of San Francisco International Airport is that, as the only major air hub in Northern California, it serves a population of slightly more than six million persons within a 150-mile primary market area radius. Thus, the ratio of air passengers (6,352,389) to the market area population is more than 1-to-1 — a figure that is not equalled by any other major air hub in the world.

By mid-1965 the growing hole-in-the-ground, shown on the facing page, will become the first \$9.5 million section of the world's first Airport Garage, equipped to park 2,850 cars. When completed, it will be a vital part of the new era concept of convenience and compactness.

(pounds)

1962-63	6,352,389
1961-62	5,706,640
1960-61	5,051,650
1959-60	5,017,479
1958-59	4,275,675
1957-58	4,046,524
1956-57	3,684,830
1955-56	3,282,444

1962-63	162,138,459
1961-62	147,478,811
1960-61	119,585,659
1959-60	111,986,915
1958-59	103,177,998
1957-58	88,273,800
1956-57	89,486,910
1955-56	75,366,072

## PASSENGER TRAFFIC

## AIR EXPRESS AND FREIGHT







The Ferry Building transit complex of 1905 is shown in the rare old photograph (across top of page); directly above is the wonderful Sutter Street cable car of the 1880's; to the right is the Muni on Market Street in 1918



## MUNI CONTINUED TO PROVIDE VITAL TRANSIT SERVICE

Fiscal 1962-63 saw the continuing performance of one of the most vital and challenging transit operations in the entire country by the Municipal Railway of San Francisco – the "Muni."

Statistics tell part of the year's transit story: Total passengers carried was 207,035,589, up from the previous year's 204,820,042. They were transported by the Muni's fleet of street cars, cable cars, trolley and motor coaches over 26,471,341 miles of route during 2,817,576 hours of operation.

Convenience is also an important part of the story: In this geographically small (45 square miles) but densely populated (approximately 750,000) City of hills, valleys and generally dramatic terrain, nearly nine out of ten people live within two blocks of a Muni route. Underlining the Muni's convenience is the fact that San Francisco has nearly the highest per capita riding habit in the United States.

And economy is a major part of the Muni story: Passengers are transported for a 15-cent fare with free transfer privileges that is one of the country's biggest transit bargains. (Of the total 207,035,589 passengers carried, 141,407,779 were "revenue" passengers; the difference is accounted for by the free transfer users.)

Reason for the 15-cent fare is the City's official policy to subsidize transit as an essential and necessary public service. The policy is based on recognition of the Muni as a virtual "lifeline" between the urban districts and the comparatively small area known as "downtown." This is where the giant economic heart of the City beats, where it plays its traditional role as the financial and business capital of the West. Downtown comprises a major part of the City's total tax base.

San Francisco has a virile downtown in good part because the Muni's transit facilities give thousands of people efficient transportation, because its very provision of superior service is an effective antidote to the congestion-contributing use of private automobiles. It's a simple matter of mathematics to define the threat: An average of from 36 to 40 autos is required to do the transportation job of one Muni vehicle; but where the Muni moves on schedule, the auto – somehow, somewhere – must stop and park.

The Muni's day-in, day-out job during the fiscal year can be seen from another statistical picture: Some 670,000 passengers were transported over 691 round-trip miles of route on an average week-day, utilizing 837 vehicles on 61 transit lines.

It was not always so. Today's City-spanning Muni network is a far cry from the little one-line system that started on Geary Street in 1912 – the first public-owned transit system in the United States. Since then it has grown surely and according to plan, consolidating a number of private operations into the one system. As the transit routes stretched out and spread into undeveloped areas, and as these remote sections grew they were linked by the Muni into close

relationship with the downtown area, a relationship that enormously enhanced residential and centralized downtown values.

Never a static operation, the Muni is constantly on the alert to provide better service. For example, during the fiscal year: Re-routings included the No. 10-Monterey Line (via 7th Avenue, Lawton – instead of Judah – and 9th Avenue) and Nos. 15, 42 and 51 Lines in the general vicinity of Hunters Point; service was augmented on lines operating near newly-opened Lowell and Woodrow Wilson High Schools; some 2,500 students were transported from various parts of the City to the Opera House for a series of Youth Concerts; seasonal service to Candlestick Park was provided for almost 17 percent of the diamond die-hards who sweated through the season as well as the World Series with the Giants.

Add to those examples of the flexibility and Johnny-on-the-spot nature of Muni service another facet of its operation that continued through the fiscal year to attract tourists by the thousands – the world-famed and intensely beloved cable cars whose grimpen and conductors are prime San Francisco hosts to their throngs of happy, excited, camera-crazed passengers.

A decision that will result in major improvement in City service was made in November, 1962 when voters of San Francisco, Alameda and Contra Costa Counties approved the \$792 million Bay Area Rapid Transit bonds. The rapid transit plan includes separate subway tracks for Muni equipment under Market Street connecting with Twin Peaks Tunnel – and then additional subway under West Portal to St. Francis Circle. Muni management continued to work closely with other City departments and with Bay Area Rapid Transit District in anticipation of the initial start of the Market Street subway in late 1968.

During the fiscal year the Muni observed a significant milestone – its Golden Anniversary. In honor of the occasion a large and enthusiastic Citizens Committee, chaired by Mrs. Hans Klussmann with Emmett Fitzpatrick and Gilbert Kneiss as co-chairmen, organized a gala week-long celebration in October when an appreciative San Francisco paid tribute to its transit system as a dynamic force in the growth and well being of the City . . . High light occurred when "Old No. 1" – first Muni street car to go into service in 1912 – was brought back for a nostalgic one-week tour of Market Street at an equally nostalgic 5-cents-a-ride. (At the venerable car's helm as it started its first run in champagne-splashed splendor were Mrs. Klussmann, PUC President Stuart N. Greenberg and Vice President Thomas P. White.) . . . A handsomely painted "Golden Coach" roamed the City and became the focal point for a score of district celebrations . . . A Muni art contest in the City's schools, displays of historical pictures, a unique "50 year old" fashion show at Union Square, a City-wide cable car bell-ringing contest, cable cars gaily decorated by various firms – all were part of the festive activities which were climaxed by a colorful Muni birthday luncheon at the St. Francis Hotel.



## MASSIVE CONSTRUCTION PROVIDED REASSURANCE FOR LARGE AREA SERVED BY THE WATER SYSTEM

Fiscal 1962-63 was a year of reassurance for the vast and thirsty San Francisco-Peninsula-South Bay area served by the water system of San Francisco. It was a year that saw the start of massive construction projects: Miles of trenches were dug across the San Joaquin Valley to receive equal miles of steel pipe; another long pipeline was started around the South Bay; construction was well under way on a big dam in southern Alameda County.

When completed — at a cost of more than \$50 million — these projects will provide increased delivery and storage capacity to meet the needs of San Francisco and the constantly growing suburban areas which receive their domestic and industrial water supply from the system that starts at Hetch Hetchy in the High Sierra and flows 167 miles to join with the local reservoirs in the Bay Area.

Approval of the \$115 million water bonds in 1961 — largest bond proposal in the City's history — was followed by immediate commencement of engineering of the most vital elements of the program, with the result that during 1962-63:

1 — Construction of the third Hetch Hetchy Aqueduct pipeline across the San Joaquin Valley was started, with 11 of the 47 miles completed and a contract for an additional 21.5 miles awarded. When completed — at an estimated cost of \$22 million — the new pipeline will increase the aqueduct's capacity to about 295 million gallons per day.

2 — Construction was started on the \$22.5 million Bay Division Pipeline No. 4 which will augment the capacity of the present three pipelines — two across the lower bay at Dumbarton Bridge and one around the South Bay — now regularly used to their maximum capacity. The new pipeline will parallel Bay Division Pipeline No. 3 on its 34-mile-long right of way around the southerly end of the bay.

3 — Construction was well along on the \$6.5 million James H. Turner Dam on San Antonio Creek in southern Alameda County which will create a reservoir of 50,500 acre feet capacity.

The urgent need to expand the system had been shown at the time of the water bond election when the average water consumption for the preceding fiscal year — 1960-61 — was 167 million gallons per day. This was considered uncomfortably close to the 180 million gallons considered to be the safe sustained daily delivery capacity of the present system. Bond approval and the resultant engineering and construction program have proceeded on a tight time schedule during which the average daily consumption increased to 175 million gallons for 1961-62 — and for 1962-63 it increased to 179 million gallons.

The construction of additional aqueduct and local storage will increase the system's delivery capacity to approximately 300 million gallons daily and will take care of the service area's expanding water needs at least to the year 1985.

The 1961 water bonds looked far beyond 1985, however. Largest single bond item was \$45 million to provide sufficient additional water storage in the mountains to guarantee the system's eventual ability to serve a dependable supply of 400 million gallons daily, enough until at least year 2015.

The \$45 million would be the City's participation in the construction of a New Don Pedro Dam on the lower Tuolumne River in cooperation with the Turlock and Modesto Irrigation Districts and the U. S. Army Corps of Engineers. In view of the Irrigation Districts' prior water rights, the City has been required over the years to make releases to the Districts of water stored in its own reservoirs; by participating in the New Don Pedro and acquiring "exchange" storage there, San Francisco could retain the pure mountain water in its upstream reservoirs for its own use. This would provide an ultimate delivery capacity from the Hetch Hetchy reservoirs in excess of 400 million gallons per day.

New Don Pedro's original construction schedule — which called for a start in 1962 with completion in 1966 — was changed by the scheduling of a Federal Power Commission hearing on the Districts' application in San Francisco in October, 1962. The examiner who conducted the hearing filed an initial decision on June 4, 1963 which recommended issuance of a 50-year license subject to a number of conditions. A final decision was expected within six months.

An important decision for the water system was made at the November, 1962 election when voters authorized merging of the Hetch Hetchy Project and the San Francisco Water Department into a new Department of Water and Power. The Hetch Hetchy Project delivers water from the Tuolumne River watershed to the Bay Area where it is distributed to retail customers in San Francisco and to wholesale customers outside the City by the Water Department.

Since completion of the Hetch Hetchy Aqueduct in 1934, the Project has grown until it now delivers an annual supply of more than two-thirds of the water required by the service area. As a by-product to its water supply function, the Project also generates hydroelectric energy as an aid in keeping down the cost of water. In addition to two mountain power plants — Cherry with a rated capacity of 135,000 kilowatts, and Mocassin with 70,000 — a third plant, now under construction, will add 75,000 kilowatts to the system's total generating capacity. This Canyon power plant is scheduled for 1966 completion. During the past fiscal year the \$11 million 10-mile-long Canyon power tunnel was more than half completed.

Mayor George Christopher (right) congratulates San Francisco Water Department's General Manager James H. Turner on the occasion of the dedication and ground-breaking ceremonies for the "James H. Turner Dam" in Alameda County May 2, 1963. The PUC named the dam in honor of the veteran utilities official who was scheduled for retirement Sept. 1, 1963 after more than 41 years service to the City and County of San Francisco.



## ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other operating departments of the Public Utilities Commission. (An exception is the SF Water Department, which has its own engineering division.)

The Bureau has full charge of the Hetch Hetchy water supply and electric power system, also performs engineering work for the SF International Airport and the SF Municipal Railway. This latter function includes planning and supervising all new construction for these three utilities and the provision of engineering services in connection with maintenance and reconstruction of existing facilities. Total value of construction work performed under the Bureau's direction during the year on the Hetch Hetchy Project, Airport and the Muni was approximately \$16,251,000; at fiscal year's end an additional \$9 million of work was under construction.

The Bureau prepared plans and specifications for construction contracts totaling \$16 million which were awarded in 1962-63. At fiscal year's end, plans and specifications for over \$4 million of construction for the San Francisco International Airport, Hetch Hetchy Project and the Municipal Railway were being prepared. The South Terminal Building and aircraft apron were nearing completion at the Airport, and construction of the \$9.5 million first stage of the four level parking garage was about to begin. One runway was being

extended to 9,500 feet, and plans and specifications were completed for additional taxiways and aprons. Construction of San Joaquin Pipe Line No. 3 was off to a successful start with almost 11 of the 45 miles of 78" diameter line completed, and the \$11 million Canyon Power Tunnel, a major element in Hetch Hetchy's Canyon Power Project, was more than half completed during the fiscal year.

## LIGHT, HEAT AND POWER

The Bureau of Light, Heat and Power is another dual-role member of the Utilities family, combining the functions of a service bureau—to provide for furnishing utility services for municipal purposes—with those of an operating bureau which provides for the lighting of public streets in San Francisco.

A total of 271,930,805 kilowatt-hours of electric energy generated by the Hetch Hetchy System was supplied municipal accounts (including street lighting and traffic devices, the Muni transit system, SF International Airport, and the lighting of municipal buildings) during the year, while the Pacific Gas and Electric Company furnished under contract 13,902,195 hundred-cubic-feet of natural gas and 1,922,000 pounds of steam. The total number of City-owned, PG&E-owned and jointly-owned street lights at fiscal year's end was 29,355.

## SPECIAL BUREAU FUNCTIONS

### BUREAU OF ACCOUNTS

This Bureau is responsible for the supervision and coordination of the financial affairs of all utilities. Departmental budgets are prepared under the direction of the Accounts Bureau, which also makes studies and analyses for determination of financial policy regarding depreciation of physical properties and proper rate schedules. In addition it assists with negotiation of all leases of Utilities property. Figures prepared by the Bureau reveal that properties under the jurisdiction of the PUC have a book value before depreciation (as of June 30, 1963) of \$387,313,174.

GEORGE P. NEGRI, Director, Bureau of Accounts



### PERSONNEL AND SAFETY BUREAU

The processing of employments, terminations, transfers and leaves of absence of all employees is one of the responsibilities of this Bureau which maintains complete personnel records for the 3,783 employed in the various utilities as of June 30, 1963.

Important safety functions include training Muni transit platform workers, processing data for safety awards, compiling accident and injury reports, setting up and administering transit and industrial safety programs for the utility departments, and taking part in San Francisco traffic surveys with respect to general and public traffic safety.

PAUL J. FANNING, Director, Bureau of Personnel & Safety



### PUBLIC RELATIONS BUREAU

Public Information, customer, employee and public relations are the responsibility of this Bureau, which has its main office at City Hall with branch offices at the Muni transit system and the SF International Airport. Working with press, television and radio, through tours of the far-flung utilities properties, through publications such as this Annual Report and educational programs with schools, clubs and civic groups, information regarding the operation of San Francisco's public utilities is widely disseminated to its citizen-owner-customers.

WILLIAM SIMONS, Director, Public Relations Bureau





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SAN FRANCISCO PUBLIC UTILITIES COMMISSION  
ANNUAL REPORT 1963-1964



*ROBERT C. KIRKWOOD, General Manager of Public Utilities, 1959-1964*

California lost an outstanding citizen and a superior public servant in the death on May 5, 1964 of Robert C. Kirkwood. He was only 54, the sudden victim of a heart attack.

Although his countless mourning friends reflected that he had an abundant life ahead of him, actually he had lived an extraordinarily abundant life. The legacy he left to all who enter public life was a rare example of selfless, enthusiastic, highly skilled and uncompromisingly honest dedication to the service of his fellow citizens.

During the little more than five years since his appointment February 1, 1959 as manager of San Francisco's Utilities, he ran the burgeoning multi-million dollar operation with quiet competence, with creativity and with a steadfastly keen concern for the public interest.

## THE PUBLIC UTILITIES YEAR

His service to San Francisco marked an era of massive Utility expansion, of far-sighted planning of effective cooperation with other agencies in the water and power system, Municipal Railway and the San Francisco International Airport.

A peripatetic administrator who had boundless enthusiasm for his work, he became intimately familiar with the properties, projects and problems of the sprawling Utilities empire. (*The photograph on the facing page was taken in the fall of 1959 at the Cherry power plant's big penstock in Tuolumne County.*)

Before coming to San Francisco his integrity as a public official had become a legend in Sacramento where he had been State Controller for six years and, before that, had been elected for four terms in the State Assembly from northern Santa Clara County's 28th District.

"He was not only a sincere, honest and hard working public servant," a saddened Mayor Shelley said on that day in May when the flags at City Hall fluttered at half-mast, "but a dedicated one whose only aim was to do a clean and honest job."

*It is to the memory of Robert C. Kirkwood that this annual report of the Public Utilities Commission for the fiscal year 1963-64 is dedicated in appreciation and with respect and deep affection.*

## JAMES K. CARR NAMED

Filling the City's gaping organizational void was a matter of prime and challenging concern to Mayor Shelley and to the PUC, led by President Thomas P. White and Vice President George F. Hansen. It required a presidential clearance before they could obtain the services of the man they wanted.

June 5, 1964 President Johnson accepted "with regret" the resignation of Under Secretary of the Interior James K. Carr in order that he could accept appointment to the Utilities position, effective July 16.

From May 5 until July 15 Administrative Secretary James J. Finn served as acting General Manager.

Three retirements of major importance occurred during the year: The Water Department's General Manager James H. Turner retired September 1, 1963 after more than 41 years service, and Assistant General Manager George D. Burr retired November 1, 1963 with 37 years service; Paul J. Fanning retired March 31, 1964 after having directed the Bureau of Personnel and Safety for 17 years.

It was a year of mammoth construction on the long water "lifeline" extending from the High Sierra to the Bay Area (*see story, starting on Page 5*); of soaring new records at International Airport (*see story, Page 8*); of the continuing transit performance by the Muni (*see story, Page 11*).

It was a year during which the economic impact of the Utilities on its neighboring counties could be measured by the \$1,489,-124 taxes paid by the Water Department, Airport and the Hetch Hetchy Project.

JOHN F. SHELLEY  
*Mayor of San Francisco*



THE SAN FRANCISCO  
PUBLIC UTILITIES COMMISSION

THOMAS P. WHITE  
*President*



GEORGE F. HANSEN  
*Vice President*



STUART N. GREENBERG  
*Commissioner*



THOS. F. STACK  
*Commissioner*



HERI SIMON  
*Commissioner*



ROBERT C. KIRKWOOD  
*General Manager of Public Utilities*



BELFORD BROWN  
*General Manager, San Francisco  
International Airport*



VERVON W. ANDERSON  
*General Manager, Municipal  
Railway of San Francisco*



ORAL L. MOORE  
*General Manager, Hetch Hetchy Project  
and Utilities Engineering Bureau*



WILLIAM F. BOURNE  
*Public Utilities Counsel*



JAMES J. FINN  
*Administrative Secretary*

## ORGANIZATION OF THE UTILITIES

Established in 1932 under City Charter authority, the Public Utilities Commission has control of and jurisdiction over the construction, management and maintenance, extension and operations of all public utilities owned, leased or used by the City and County of San Francisco.

The Utilities are the SF International Airport, the Municipal Railway of SF, the SF Water Department, the Hetch Hetchy Project, Utilities Engineering Bureau, and the Bureau of Light, Heat and Power. In addition there are three service bureaus: Accounts, Personnel and Safety, and Public Relations.

The Commission consists of five members appointed by the Mayor for four-year, staggered terms. Members elect their own president and vice president, and hold weekly public meetings to transact business of the Utilities. Department and bureau heads are responsible to the General Manager of Public Utilities who, in turn, is responsible to the Commission.

In accordance with Charter provisions, an annual report covering the preceding fiscal year is prepared for submission to the Mayor. The report herewith submitted covers activities and operations for the 12-month period beginning July 1, 1963 and ending June 30, 1964.

## SUMMARY OF THE FISCAL YEAR

	1961-62	1962-63	1963-64 *
<b>CUSTOMER SERVICES</b>			
Airport Passengers . . . . .	5,706,640	6,352,389	7,448,244
Air Shipments (pounds) . . . . .	214,518,446	233,931,902	277,266,104
Transit Passengers (revenue) . . . . .	141,986,118	141,407,779	142,684,565
Kilowatt Hours Sold . . . . .	1,104,712,038	1,221,326,031	1,517,773,260
Water Consumption (gallons daily) . . . . .	175,419,000	179,183,000	196,735,000
Street Lights . . . . .	29,134	29,355	30,556
<b>BOOK VALUE OF PROPERTIES BEFORE DEPRECIATION</b>			
Hetch Hetchy . . . . .	\$168,586,347	\$168,718,538	\$172,312,441
Water Department . . . . .	118,208,961	119,930,503	121,150,628
Municipal Railway . . . . .	31,713,246	31,259,615	31,557,030
International Airport . . . . .	65,775,583	65,927,234	79,302,333
<b>TOTAL</b> . . . . .	<b>\$384,284,137</b>	<b>\$385,835,890</b>	<b>\$404,322,432</b>
<b>TAX SUBSIDY</b>			
Municipal Railway . . . . .	\$ 5,762,320	\$ 6,279,860	\$ 6,474,005
Light, Heat and Power . . . . .	1,291,274	1,199,408	1,871,352
<b>TAXES PAID TO OUTSIDE JURISDICTIONS</b>			
Water Department . . . . .	\$ 965,892	\$ 991,783	\$ 1,012,670
International Airport . . . . .	89,334	94,254	266,193
Hetch Hetchy . . . . .	162,387	190,846	210,361
<b>SALARIES, WAGES AND RELATED BENEFITS</b>			
Municipal Railway . . . . .	\$ 18,642,895	\$ 19,566,124	\$ 20,631,379
Water Department . . . . .	4,345,362	4,935,115	5,532,383
Hetch Hetchy . . . . .	1,527,806	1,617,998	1,490,002
International Airport . . . . .	1,731,516	1,878,332	2,268,033
Light, Heat and Power . . . . .	94,971	96,475	99,404
<b>NUMBER OF EMPLOYEES</b>			
Municipal Railway . . . . .	2,711	2,684	2,671
Water Department . . . . .	529	589	593
Hetch Hetchy . . . . .	271	292	277
International Airport . . . . .	182	182	240
Light, Heat and Power . . . . .	12	12	12
PUC General Office . . . . .	24	24	24
<b>*TOTAL EMPLOYEES</b> . . . . .	<b>3,729</b>	<b>3,783</b>	<b>3,817</b>

\*All figures subject to final audit.



# 1963-64 BUDGET BRIEFS

## SAN FRANCISCO INTERNATIONAL AIRPORT

1963-64

RECEIPTS	
Revenues	\$ 8,356,718
Prior Year's Surplus	2,995,251
	\$11,351,969
EXPENDITURES	
Operations	\$ 3,802,489
Bond Interest and Redemption	3,481,477
Betterments	1,003,663
	\$ 8,287,629
UNAPPROPRIATED REVENUES	\$ 3,064,340



## MUNICIPAL RAILWAY OF SAN FRANCISCO

RECEIPTS	
Revenues	\$20,092,829
Prior Year's Surplus	790,941
From General Fund	330,117
Taxes	6,474,005
	\$27,687,892
EXPENDITURES	
Platform Wages	\$11,191,730
Bond Interest, Redemption	1,115,795
Other Expenditures	14,485,556
Betterments	342,086
	\$27,135,167
UNAPPROPRIATED REVENUES	\$ 552,725



## SAN FRANCISCO WATER DEPARTMENT

RECEIPTS	
Revenues	\$17,209,018
Prior Year's Surplus	3,140,000
	\$20,349,018
EXPENDITURES	
Operations	\$ 8,370,571
Standby Charge, Purchase of Hetch Hetchy Water	4,500,000
Bond Interest, Redemption	2,994,601
Betterments	4,177,811
	\$20,042,983
UNAPPROPRIATED REVENUES	\$ 306,035

## HETCH HETCHY PROJECT

RECEIPTS	
Standby Charge, Sale of Water to Water Department	\$ 4,500,000
Revenue from Sale of Power	10,794,462
Other Revenues	51,807
	\$15,346,269
EXPENDITURES	
Operations	\$ 5,043,548
Bond Interest and Redemption	8,448,734
Betterments	162,460
	\$13,654,742
UNAPPROPRIATED REVENUES	\$ 1,691,527

## BUREAU OF LIGHT, HEAT AND POWER

RECEIPTS	
Transfers	\$ 2,720,657
Taxes	1,871,352
	4,592,009
EXPENDITURES	
Operations	\$ 4,592,009
Betterments	—
	\$ 4,592,009



(NOTE: All figures subject to final audit)

Teeming activity was evident all along San Francisco's water and power system from the High Sierra to the Bay Area as a multi-million dollar water construction program swung into high gear during the fiscal year.

A big tunnel to develop power was blasted through solid granite in the mountains, miles of pipeline were laid across the San Joaquin Valley and around the South Bay, a new dam rose in southern Alameda County—all part of the carefully planned effort to satisfy the domestic and industrial thirst of the large and growing area dependent on San Francisco for its water.

#### INCREASED CONSUMPTION

This area—all of San Francisco, most of San Mateo County, parts of Santa Clara and Alameda Counties—consumed a daily average of 52 million gallons 34 years ago when San Francisco purchased the Spring Valley Water Company and went into the water business.

In dramatic comparison, this same area consumed a daily average of 175 million gallons three years ago when San Francisco voters approved \$115 million in water bonds to expand the system. At the time of the bond approval in November, 1961, the system's safe sustained delivery capacity was 180 million gallons per day.

In another dramatic contrast, an average of 196.735 million gallons per day was consumed in the service area during 1963-64. Highest in the system's history, it was up 9.8 percent from the 179 million gallons daily of the preceding fiscal year. This was made possible by initial units of the bond-financed water construction program which increased transmission capacity.

#### BURGEONING GROWTH

The area's burgeoning suburban growth was pointed up by the fact that average consumption outside San Francisco was more than 6 percent greater than in the City during the year.

Another illustration: When the City of Hayward dedicated its \$1.61 million pipe-

line connecting to the Hetch Hetchy Aqueduct at Newark on February 21, Hayward officials said the added capacity will meet their water needs until the year 2000.

When completed, the water construction program will increase the system's delivery capacity to approximately 300 million gallons daily, sufficient to take care of the entire service area's expanding needs to 1985. During the year:

1) Construction of the central 17-mile section of the 34-mile Bay Division Pipeline No. 4 (on the right of way of the existing Pipeline No. 3 around the southerly end of the Bay) was well ahead of schedule, with completion expected in the fall of 1964. Completion of the total 34 miles of pipeline, which will augment the capacity of the present three Bay pipelines, is scheduled in 1968. It is an estimated \$22 million project.

#### NEW TURNER DAM

2) The \$6.5 million James H. Turner Dam on San Antonio Creek in southern Alameda County was more than three-fourths complete and was expected to be finished in December 1964. It will create an additional reservoir with a capacity of 50.5 thousand acre-feet in the local system which now has reservoirs with a total capacity of more than 187 thousand acre-feet. (3.07 acre-feet equal 1 million gallons.)

3) More than 30 miles of the planned 47½-mile San Joaquin Pipeline No. 3 had been installed across the valley (on the right of way of existing Pipelines Nos. 1 and 2). An 11-mile section, placed in service in January, increased the aqueduct's capacity from 160 to 173 million gallons daily.

4) The \$12 million 10½-mile Canyon power tunnel from below O'Shaughnessy Dam to Early Intake on the north side of the Tuolumne River was nearing completion at fiscal year's end, having been driven through solid granite in just under 17 months, a near record. This is the first ele-

### CONSTRUCTION IS THEME OF WATER SYSTEM'S YEAR

*Miles of pipeline were laid across the San Joaquin Valley and around the South Bay during the year to increase the water system's transmission capacity (photos, top and middle, left). The boring-through of the 10½-mile Canyon power tunnel in the High Sierra (lower photo, left) was officiated over on June 24, 1964 by (left to right) PUC President Thomas P. White, Hetch Hetchy Chief Oral Moore and Vice President J. William Ruth of the Clancy M. O'Dell Construction Company.*

*More air passengers, more mail by air, more air cargo, more revenue, more of just about everything!*

That, in brief, is the story of San Francisco International Airport during 1963-64, a period which saw new highs recorded in virtually every phase of air traffic to enable the Airport to maintain its position as fourth ranking air hub in the United States and fifth internationally.

The passenger total of 7,448,244—17.3 percent more than for 1962-63—was more than double the total of 1956-57. And an all-time passenger high was reached for the month of June: 743,448, largest month in Airport history.

#### AIR SHIPMENTS UP

Air freight volume of 190,010,670 pounds was 26 percent more than the previous fiscal year: air express gained 4.7 percent to 12,266,848 pounds; U.S. Mail shipped by air was up 4.8 percent to 75,255,542 pounds. Total air shipments exceeded 277 million pounds as compared to the previous year's 234 million pounds.

The large gains in air traffic strongly emphasized the need for early and detailed planning for expansion. Responding to this need, the PUC authorized Airport management to cooperate with Pacific Air Commerce Center, Inc., in preparing a master plan for industrial development of a large area adjacent to SFIA.

The traffic gains were also reflected in a parallel increase in Airport revenues. The fiscal year's total was \$8,356,717, up 14.5 percent over 1962-63.

Aircraft movements—landings and take-offs—totalled 250,792, a gain of 11 percent. Scheduled carrier movements were up 9.5 percent to 179,693. Percentage-wise, the larger gain in air passengers (17.3 percent) over the scheduled carrier movements (9.5 percent) was a clear indication that airlines operating from San Francisco enjoyed greater load factors during the year.

The year saw the opening of a "New Era" for Northern California commercial aviation with three large developments in the terminal complex:

1) Completion of the \$14 million South Terminal, which increased the Airport's

annual passenger capacity to 12 million; 2) Construction of the \$10 million, 2,850-car capacity first stage of the four-level parking garage to the half-way mark, with completion programmed for summer of 1965; 3) Completion of plans for a \$2.5 million interior remodeling of the Central Terminal—which, during the year, underwent a complete \$2 million modernization of United Air Lines' Pier B.

The dedication of the South Terminal by Federal Aviation Agency Administrator Najeeb E. Halaby September 15 climaxed a week-long program of events attended by leaders of business and industry, labor and society, governmental officials from throughout Northern California—the Airport's primary market area—as well as by officers of most of the world's airlines and airports.

Trans World Airlines began operations there on September 16. American Airlines, West Coast Airlines, Western Airlines, British Overseas Airways, Japan Air Lines, Lufthansa German Airlines, Philippine Airline, Pan American World Airways and Qantas Empire Airways shifted from the Central Terminal as their new quarters became ready. American and West Coast use South Terminal ticketing and baggage facilities but their loading positions remain in Pier E, which links the new terminal with the Central.

#### NEW MOVING SIDEWALK

May 20 a 450-foot long "moving sidewalk" was installed along the north concourse in the Central Terminal, linking United Air Lines' Piers B and C, to reduce walking distance for air travelers.

When the Central Terminal modernization has been accomplished, United Air Lines will continue to occupy the north half of the building's ticket lobby and baggage claiming area, with the south half accommodating Delta Air Lines, National Airlines, Pacific Air Lines and Pacific Southwest Airlines.

A major construction project was near completion at fiscal year's end—Pan American World Airways' \$5 million maintenance and administration building on Plot 1 near the Hilton Inn.

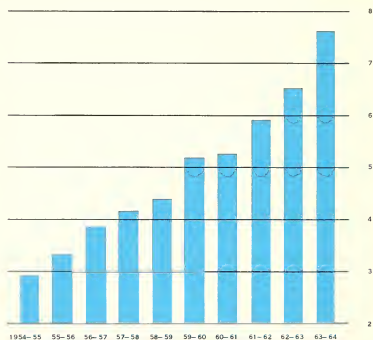
## SAN FRANCISCO'S RECORD-BREAKING AIRPORT YEAR

*Pan American World Airways' huge \$5 million maintenance and administration building was virtually completed by fiscal year's end (top photo, right); the first moving sidewalk at SFIA was opened May 20 in the north concourse connecting Piers B and C (middle, right); and construction of the world's first airport garage—initial capacity to be 2850 cars—was reaching the half-way point (lower, right).*



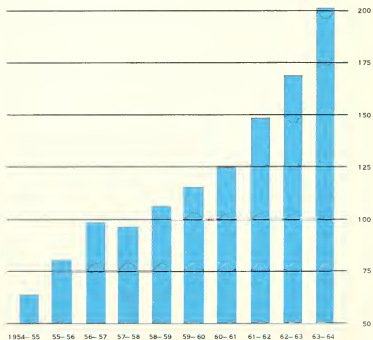
## PASSENGER TRAFFIC

PASSENGER  
MILLIONS



## AIR EXPRESS AND FREIGHT

POUNDS  
MILLIONS







## THE EVER MOVING MUNICIPAL RAILWAY OF SAN FRANCISCO

### *Forty to one?*

It's been estimated — conservatively — that one Municipal Railway vehicle does the job of at least 40 automobiles.

If cars were left in the garage for everyday business and shopping trips, the street cars, coaches and cable cars of the Muni could provide service of almost clock-like precision to all parts of San Francisco.

The Muni, however, is but one of thousands of users of the City's streets; it vies with automobiles, taxicabs, delivery vans, trucks, vehicles of all kinds and sizes.

Yet even in the face of a growing downtown traffic maelstrom, the Muni is used by so many time- and value-conscious San Franciscans that transit patronage has remained relatively stable despite declining passenger travel on transit lines throughout the country. Revenue passengers carried during the fiscal year were 142,684,565, an increase over the previous year's total of 141,407,779.

The perspicacity of transit users is readily equated to the system's unique provision of service by the fact that on an average week day approximately 685,000 passengers are transported over 700 round-trip miles over routes utilizing 829 scheduled vehicles on 61 Muni lines.

To accomplish this requires the services and skills of 2,678 employees, two-thirds of whom operate the vehicles, the rest being office, supervisory and maintenance personnel who backstop the Muni men on the front line of public service.

### HIGH RIDING HABIT

Its riders use the Muni mainly to and from work during the morning and late afternoon rush hours. But they also use the Muni for shopping throughout the City and especially downtown during the almost tranquil off-peak periods when traffic is less traumatic.

The efficacy of the Muni is underlined by the fact that San Francisco has nearly the highest per capita riding habit in the United States; nearly nine out of 10 people live within two blocks of a Muni line.

There's a financial reason behind the widespread use of the Muni: Riders still enjoy one of the nation's most unusual transit bargains—a 15¢ fare with full transfer privileges. This is possible because of San Francisco's policy to give tax support to transit as a necessary and essential public service, a policy based on recognition of the Muni as a "lifeline" between the urban districts and the comparatively small yet vital area known as "downtown" where the giant economic heart of the City beats.

### HISTORIC GROWTH ROLE

During the year the Muni played its historical role of accelerating residential growth by extending transit service into new districts. In November the No. 37-Corbett line was revised to include Diamond Heights and to improve service to the Glenview neighborhood.

Representatives of the Muni and the PUC's Engineering Bureau met regularly with Bay Area Rapid Transit officials to plan how best the area-wide system could be coordinated with the San Francisco system.

In June the Mayor's Transportation Council recommended that a comprehensive transit study aimed at modernizing the Muni's equipment and facilities be made in order to accomplish Mayor Shelley's announced objective of "home-to-work trips requiring not more than 20 minutes transit travel time" for San Franciscans.

While keeping abreast of modern transit trends, the Muni did not neglect the internationally-famed "darlings" of San Francisco—the little cable cars. Some \$277,000 was appropriated to replace the antiquated cable winding machinery in the Washington-Mason power house, control center for the cable cars.

For about 40 days during the latter part of 1964 and the first part of 1965 the familiar whir of the cables singing in the slots along Powell, California, Hyde and Mason Streets will be stilled to accomplish the first major refurbishing of the original machinery since 1890.

*The Mondrian-esque line drawing on the facing page—showing the solitary Muni vehicle (in green) standing bravely out on a sea of congestion—illustrates the tremendous task performed by the transit system in transporting some 685,000 passengers each weekday to their points of destination throughout San Francisco.*

## ENGINEERING BUREAU

The Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau combines the functions of an operating department with those of an engineering bureau serving other departments of the Utilities. (An exception is the SF Water Department, which has its own engineering division.)

The Bureau has full charge of the Hetch Hetchy water supply and electric power system, and performs engineering work for the SF International Airport and the Municipal Railway. This includes planning and supervising all new construction and providing engineering services for maintenance and reconstruction of existing facilities.

Total value of construction work during the year was approximately \$24.5 million; at fiscal year's end an additional \$23 million of work was under construction.

The Bureau prepared plans and specifications for construction contracts totaling \$18 million which were awarded in 1963-64. At fiscal year's end, plans and specifications for over \$8 million of construction were being prepared.

At the Airport, the South Terminal was completed and opened, the four-level parking garage was almost one-half completed, one runway was extended to 9,500 feet, and

additional taxiways and aprons were under construction.

In the High Sierra, excavation of the 10.5-mile-long Canyon power tunnel was completed, and preparations were being made for construction of the Canyon powerhouse and penstock. Over one-half of the 47-mile-long San Joaquin Pipe Line No. 3 was completed. Municipal facilities were being relocated in San Francisco to accommodate the State's Southern Freeway.

## LIGHT, HEAT, POWER

The Bureau of Light, Heat and Power is another dual-role Utilities bureau, combining the functions of a service agency—to provide for furnishing utility services for municipal purposes—with those of an operating bureau providing for the lighting of public streets in San Francisco.

A total of 293,160,152 kilowatt-hours of Hetch Hetchy-generated electric energy was supplied municipal accounts (including street lighting, traffic devices, the Muni, Airport, and the lighting of municipal buildings) during the year, while the Pacific Gas and Electric Company furnished under contract 14,856,685 hundred-cubic-feet of natural gas and 2,050,800 pounds of steam. Total number of City-owned, PG&E-owned and jointly-owned street lights at fiscal year's end was 30,556.

Three bureaus provide financial, personnel and safety, and public relations services for the Utilities family.

The Bureau of Accounts supervises and coordinates all Utilities financial affairs, directs the preparation of departmental budgets, makes studies and analyses to determine financial policy regarding depreciation of physical properties and proper rate schedules, and assists with negotiation of all leases of Utilities property.

The Bureau of Personnel and Safety services and maintains complete personnel records for the 3,817 employed in the various Utilities; it also trains Muni platform workers, and sets up and administers transit and industrial safety programs for the Utilities.

The Public Relations Bureau is responsible for public information, customer, employee and public relations. This Bureau has its main office at City Hall, with branch offices at the Muni transit system's headquarters, Presidio and Geary, and at SF International Airport.

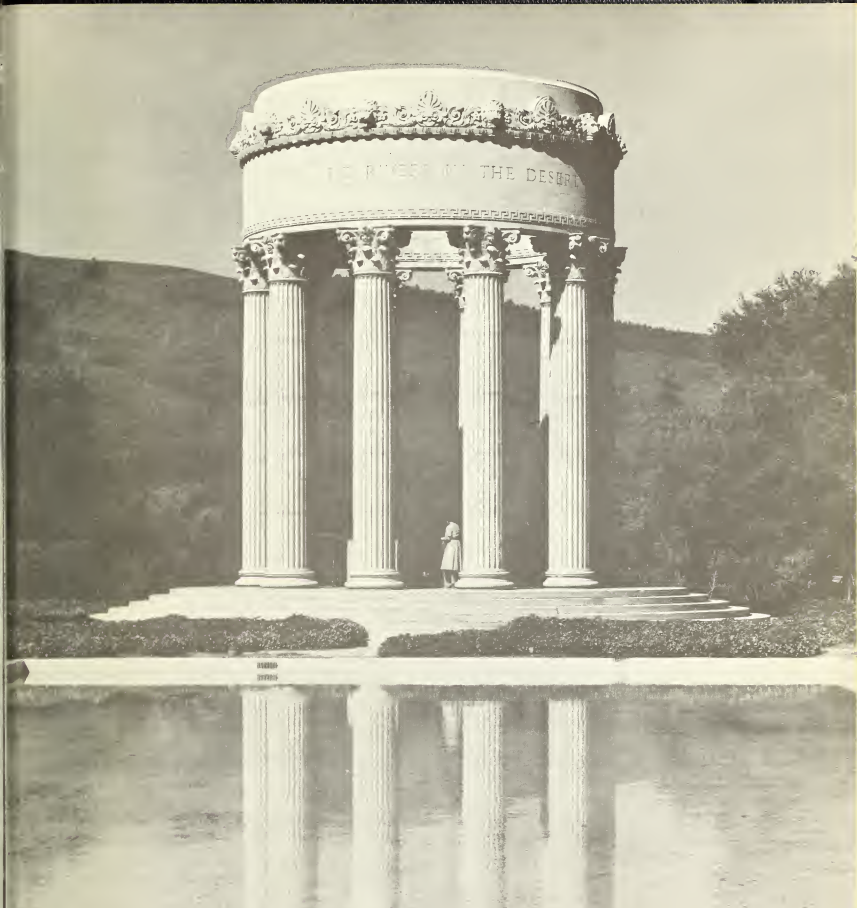
## SPECIAL BUREAU FUNCTIONS



GEORGE P. NEGRI, Director  
Bureau of Accounts



WILLIAM SIMONS, Director  
Public Relations Bureau



*Located at the southern end of Crystal Springs Reservoir in San Mateo County is the ethereal Pulgas Water Temple, western terminus of the great Hetch Hetchy aqueduct through which pure mountain water flows 150 miles from the Tuolumne River watershed in the High Sierra. October 28, 1964 will mark the 30th anniversary of the first delivery of Hetch Hetchy water to the Bay Area.*

*CREDIT LINES: Art work and design of this Annual Report by the studio of Donald G. Clever • Edited by PUC Public Relations Bureau • Photography by PUC Photo Lab • Lithography by George Lithograph Company*

*Additional copies may be obtained from the Public Utilities Commission, Room 287, City Hall, San Francisco 2, California*



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